

GenCore version 5.1.4-p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2863.13 Seconds
(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....acaacagctactacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapept 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : GenEmbl:

1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pin:*
35: em_htg_rtd:*
36: em_htg_mam:*
37: em_htg_vtl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	987	100.0	1897	4	AF106826	AF106826 Canis fam
2	704	71.3	1795	4	AF106827	AF106827 Canis fam
3	61	6.2	1138	4	AF157827	AF157827 Felis cat
4	61	6.2	1270	4	AB030652	AB030652 Felis cat
5	61	6.2	2830	4	AY007704	AY007704 Felis cat
6	41	4.2	994	4	PICCD866	L76099 Sus scrofa
7	41	4.2	994	6	AX027016	AX027016 Sequence
8	33	3.3	738	6	AX002781	AX002781 Sequence
9	33	3.3	738	6	AX149548	AX149548 Sequence
10	33	3.3	751	6	AR147737	AR147737 Sequence
11	33	3.3	751	6	AR159759	AR159759 Sequence
12	33	3.3	751	6	AR160451	AR160451 Sequence
13	33	3.3	751	6	AR202407	AR202407 Sequence
14	33	3.3	972	6	AX027005	AX027005 Sequence
15	33	3.3	1002	6	AR147736	AR147736 Sequence
16	33	3.3	1002	6	AR159758	AR159758 Sequence
17	33	3.3	1002	6	AR160450	AR160450 Sequence
18	33	3.3	1002	6	AR202406	AR202406 Sequence
19	33	3.3	1044	6	AF344851	AF344851 Macaca ne
20	33	3.3	1048	9	AF344857	AF344857 Macaca mu
21	33	3.3	1062	9	AF344840	AF344840 Cercopit
22	33	3.3	1062	9	AF344861	AF344861 Cercopit
23	33	3.3	1112	6	HUMB72A	L25259 Human CTIA4
24	33	3.3	1120	6	AR030780	AR030780 Sequence
25	33	3.3	1120	6	AR112747	AR112747 Sequence
26	33	3.3	1120	6	AR146413	AR146413 Sequence
27	33	3.3	1120	6	AR196804	AR196804 Sequence
28	33	3.3	1120	6	AX047043	AX047043 Sequence
29	33	3.3	1161	6	AR146414	AR146414 Sequence
30	33	3.3	1424	6	AR178980	AR178980 Sequence
31	33	3.3	1424	6	AX330924	AX330924 Sequence
32	33	3.3	1424	6	AX332506	AX332506 Sequence
33	33	3.3	1424	6	HSU04343	U04343 Human CD86
34	33	3.3	2205	6	AX188198	AX188198 Sequence
35	32	3.2	330	6	AR112783	AR112783 Sequence
36	32	3.2	741	9	HSB72S4	U17718 Human CTIA-
37	32	3.2	901	9	AF344836	AF344836 Papio cyn
38	32	3.2	164161	9	AC068630	AC068630 Homo sapi
39	27	2.7	28	6	AR090481	AR090481 Sequence
40	27	2.7	28	6	AR197516	AR197516 Sequence
41	24	2.4	62	6	AR112790	AR112790 Sequence
42	24	2.4	63	6	AR112789	AR112789 Sequence
43	24	2.4	306	6	AR112784	AR112784 Sequence
44	24	2.4	737	9	HSB72S5	U17719 Human CTIA-
45	23	2.3	76884	2	AC103292	AC103292 Rattus no
46	22	2.2	924	4	BTA291475	AJ291475 Bos tauru
47	22	2.2	44971	9	AC105251	AC105251 Homo sapi
48	22	2.2	66325	2	AC016425	AC016425 Homo sapi
49	22	2.2	75974	2	AC090991	AC090991 Homo sapi
50	22	2.2	81323	2	AC099244	AC099244 Rattus no
51	22	2.2	94203	2	AC023907	AC023907 Homo sapi
52	22	2.2	208230	2	AC090651	AC090651 Homo sapi
53	22	2.2	262549	2	AC113623	AC113623 Rattus no
54	21	2.1	133	4	AF222915	AF222915 Sus scrof
55	21	2.1	175	9	HSU38432	U84322 Human clone
56	21	2.1	210	6	AR146418	AR146418 Sequence
57	21	2.1	449	10	RNU31330	U31330 Rattus norv
58	21	2.1	505	6	AX153653	AX153653 Sequence
59	21	2.1	630	9	HSB72S8	U17722 Human CTIA-
60	21	2.1	942	6	E14273	E14273 Rat mRNA fo
61	21	2.1	942	10	D50558	D50558 Rattus norv
62	21	2.1	2540	9	AK098323	AK098323 Homo sapi
63	21	2.1	2949	9	AY028435	AY028435 Homo sapi
64	21	2.1	2954	9	AK001486	AK001486 Homo sapi
65	21	2.1	3055	9	BC032109	BC032109 Homo sapi

QY	781	TCGTGGATGATGTTCTTTTAAACCTAAAGGAAAGAAAGAACACCTGGCCCCCT	840		
Db	786	TGTGGATGATGTTCTTTTAAACCTAAAGGAAAGAAAGAAAGAACACCTGGCCCCCT	845		
QY	841	CATGAATGTGAACCAACAAGTGGAGAGAAAAGAAAGTGAAGCAGACCAAGAAAGACTA	900		
Db	846	CATGAATGTGAACCAACAAGTGGAGAGAAAAGAAAGTGAAGCAGACCAAGAAAGACTA	905		
QY	901	CGGTACCATGAAGACGAAAGATCTGATGAAGCCAGTGTGTTAAATTTCCAAAGCAGCT	960		
Db	906	CGGTACCATGAAGACGAAAGATCTGATGAAGCCAGTGTGTTAAATTTCCAAAGCAGCT	965		
QY	961	TCAGCGACACACGACTACTACAGCTT	987		
Db	966	TCAGCGACACACGACTACTACAGCTT	992		
RESULT 2	AF106827	1795 bp	mRNA	linear	MAM 14-DEC-1999
LOCUS	AF106827	Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.			
DEFINITION	AF106827	Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.			
ACCESSION	AF106827.1	GI:6572518			
VERSION					
KEYWORDS		Canis familiaris.			
SOURCE		Canis familiaris.			
ORGANISM		Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.			
REFERENCE	1 (bases 1 to 1795)				
AUTHORS	Yang,S. and Slim,G.K.				
TITLE	New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules				
JOURNAL	Immunogenetics 50 (5-6), 349-353 (1999)				
MEDLINE	20093996				
PUBMED	10630300				
REFERENCE	2 (bases 1 to 1795)				
AUTHORS	Yang,S. and Slim,G.-K.				
TITLE	Direct Submission				
JOURNAL	Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA				
FEATURES					
source		1..1795			
gene		/organism="Canis familiaris"			
		/db_xref="taxon:9615"			
		/cell_type="peripheral blood mononuclear cells"			
		1..1795			
		/gene="CD86"			
5'UTR		1..6			
		/gene="CD86"			
CDS		7..849			
		/gene="CD86"			
		/function="counter-receptor for CD28 and CD152 (CTLA4)"			
		/note="lacks transmembrane domain; alternatively spliced"			
		/codon_start=1			
		/product="truncated B7-2 protein"			
		/protein_id="AAPI17298.1"			
		/db_xref="GI:6572519"			
		/translation="MYRRTMELNLTLEFMTLLYGAASMSQAEFNKTEGLPCHFTN			
		SNISDELAEVWQDDKLTVELYRGKRNPNVHKTKGRTSPKDMWTLRLHNIQI			
		KDGLVQCFEYHKGPRGLVPMHQMSDLSVLNFSQPELMWTSNTESSGIIINTCSS			
		IQCYPEPKYEVFLKTVKSTSTKYDTVMKSSQNNVELNVSISLSEFVSPEASNSIFC			
		VLOESMKLPSLPYNIETNKVERKESEQTKERYRYHETTERSEDAQCNVNSTASGNS			
		-TTPF"			
		850..1795			
3'UTR		/gene="CD86"			
BASE COUNT	592 a	366 c	347 g	490 t	
ORIGIN					
Query Match	71.3%;	Score 704;	DB 4;	Length 1795;	
Best Local Similarity	100.0%;	Pred. No. 0;			
Matches	704;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
1	ATGTATCTCAGATGCACATATGGAAGTGAATTAACATTTCTTTGTGATGACCCCTGCTTC	60			

```

gene
  /db_xref="taxon:3685"
  1..1138
  /gene="CD86"
  63..1052
  /gene="CD86"
  /note="B7-2 antigen"
  /codon_start=1
  /product="CD86 antigen"
  /protein_id="A030652.1"
  /db_xref="GI:5381424"
  /translation="MGICDSTMGISHTLLVMALLSGVSSMKSOAYFNKGTGLPCPHT
  NSONISDELVEFWODQDKLVLEYIFRGKRNPNVHLKRGTSFDKDNWTLRLHNVQ
  IKDGTGHCFTIHYKPGKGLVPMHOMSSDLVLANFSQPELTIVTSNRNENSGIINLICS
  SIQGYPEPKEMYFQNLNTENSTTKYDVTMKSSONNVTELVNVSISLPEVPEAHNVSVF
  CALKLETTLEMLSLPENIDAPRKDPEQGHFLMIAVLAVFVFCGMSFTLLRRK
  KKQPGPHECTIKRERKSKOTNERVPHVPERSDAQCIVNLTASGDKNK"

BASE COUNT      358 a      245 c      246 g      289 t
ORIGIN

Query Match
Best Local Similarity 100.0%; Score 61; DB 4; Length 1138;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAAGTCAAGCATATTTCACAGAGCTGAGAGCTGCCATGCAATTTTACAA 130
      |||||||
DB 136 CTTCCATGAAGTCAAGCATATTTCACAGAGCTGAGAGCTGCCATGCAATTTTACAA 195
      |||||||

QY 131 A 131
      |
DB 196 A 196

RESULT 4
AB030652
LOCUS      1270 bp      mRNA      linear      MAM 01-MAR-2001
DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION    AB030652.1 GI:9796387
KEYWORDS   B-lymphocyte activation antigen B7-2 (CD86).
SOURCE      Felis catus
ORGANISM    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE   1 (sites)
AUTHORS     Nishimura,Y., Shimojima,M., Miyazawa,T., Sato,E., Nakamura,K.,
            Izumiya,Y., Ikeda,Y., Mikami,T. and Takahashi,E.
TITLE        Molecular cloning of the cDNAs encoding the feline B-lymphocyte
            activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
            interact with human CTLA4-Ig
JOURNAL      Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
MEDLINE     20485322
REFERENCE   2 (bases 1 to 1270)
AUTHORS     Nishimura,Y.
TITLE        Direct Submission
JOURNAL      Submitted (31-JUL-1999) Yorihiro Nishimura, Faculty of Agriculture,
            The University of Tokyo, Department of Veterinary Microbiology,
            1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
            (E-mail:yorihiro@croccs.ocn.ne.jp, Tel:+81-3-5841-5396,
            Fax:+81-3-5841-8184)
COMMENT     Sequence updated (08-Jun-2000).
FEATURES
  source
    1..1270
    /organism="Felis catus"
    /db_xref="taxon:9685"
    /cell_type="peripheral.blood.mononuclear.cell"
    1..1270
    /gene="CD86"
    240..1238
    /gene="CD86"
    /codon_start=1
    /product="B-lymphocyte activation antigen B7-2 (CD86)"
    /protein_id="BAB1688.1"

```

```

polysignal
  /db_xref="GI:9796388"
  /translation="MGICDSTMGISHTLLVMALLSGVSSMKSOAYFNKGTGLPCPHT
  NSONISDELVEFWODQDKLVLEYIFRGKRNPNVHLKRGTSFDKDNWTLRLHNVQ
  IKDGTGHCFTIHYKPGKGLVPMHOMSSDLVLANFSQPELTIVTSNRNENSGIINLICS
  SIQGYPEPKEMYFQNLNTENSTTKYDVTMKSSONNVTELVNVSISLPEVPEAHNVSVF
  CALKLETTLEMLSLPENIDAPRKDPEQGHFLMIAVLAVFVFCGMSFTLLRRK
  KKQPGPHECTIKRERKSKOTNERVPHVPERSDAQCIVNLTASGDKNSTTHP"
  1245..1250
  /gene="CD86"

BASE COUNT      378 a      281 c      260 g      351 t
ORIGIN

Query Match
Best Local Similarity 100.0%; Score 61; DB 4; Length 1270;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAAGTCAAGCATATTTCACAGAGCTGAGAGCTGCCATGCAATTTTACAA 130
      |||||||
DB 313 CTTCCATGAAGTCAAGCATATTTCACAGAGCTGAGAGCTGCCATGCAATTTTACAA 372
      |||||||

QY 131 A 131
      |
DB 373 A 373

RESULT 5
AY007704
LOCUS      2830 bp      mRNA      linear      MAM 03-OCT-2001
DEFINITION Felis catus CD86 (CD86) mRNA, complete cds.
ACCESSION AY007704
VERSION    AY007704.1 GI:15418725
KEYWORDS   .
SOURCE      Felis catus
ORGANISM    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE   1 (bases 1 to 2830)
AUTHORS     Yang,S., Sellins,K.S., Powell,T., Stoneman,E. and Sja,G.K.
TITLE        Novel transcripts encoding secreted forms of feline CD80 and CD86
            costimulatory molecules.
JOURNAL      Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
MEDLINE     11498243
REFERENCE   2 (bases 1 to 2830)
AUTHORS     Yang,S.
TITLE        Direct Submission
JOURNAL      Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
            Prospect Parkway, Ft Collins, CO 80525, USA
FEATURES
  source
    1..2830
    /organism="Felis catus"
    /db_xref="taxon:9685"
    1..2830
    /gene="CD86"
    179..1177
    /gene="CD86"
    /note="CD28/CTLA4 counter receptor; B7-2 protein"
    /codon_start=1
    /product="CD86"
    /protein_id="AAG33342.1"
    /db_xref="GI:15418726"
    /translation="MGICDSTMGISHTLLVMALLSGVSSMKSOAYFNKGTGLPCPHT
    NSONISDELVEFWODQDKLVLEYIFRGKRNPNVHLKRGTSFDKDNWTLRLHNVQ
    IKDGTGHCFTIHYKPGKGLVPMHOMSSDLVLANFSQPELTIVTSNRNENSGIINLICS
    SIQGYPEPKEMYFQNLNTENSTTKYDVTMKSSONNVTELVNVSISLPEVPEAHNVSVF
    CALKLETTLEMLSLPENIDAPRKDPEQGHFLMIAVLAVFVFCGMSFTLLRRK
    KKQPGPHECTIKRERKSKOTNERVPHVPERSDAQCIVNLTASGDKNSTTHP"

BASE COUNT      877 a      570 c      586 g      797 t
ORIGIN

Query Match
Best Local Similarity 100.0%; Score 61; DB 4; Length 2830;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```


LOCUS	AX027016	994 bp	DNA	linear	PAT 16-SEP-2000
DEFINITION	Sequence 13 from Patent WO00371102.				
ACCESSION	AX027016				
VERSION	AX027016.1	GI:10186045			
KEYWORDS					
SOURCE	plg.				
ORGANISM	Sus scrofa				
REFERENCE	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.				
AUTHORS	1 (bases 1 to 994)				
TITLE	Rogers,N.J., Dorling,A. and Lechler,R.I.				
JOURNAL	Immunosuppression				
	Patent: WO 0037102-A 13 29-JUN-2000;				
	ROGERS NICHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;				
LECHLER ROBERT IAN (GB)					
FEATURES	Location/Qualifiers				
source	1..994				
	/organism="Sus scrofa"				
	/db_xref="taxon:9823"				
BASE COUNT	302 a 241 c 202 g 249 t				
ORIGIN					
Query Match	4.2%; Score 41; DB 6; Length 994;				
Best Local Similarity	100.0%; Pred. No. 1,7e-11;				
Matches	41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;				
OY	800 TAACACTAAGGAAAGGAAGAGCGCCCGCCCTCT 840				
Db	788 TAACACTAAGGAAAGGAAGAGCGCCCGCCCTCT 828				
RESULT 8					
LOCUS	AX002781	738 bp	DNA	linear	PAT 21-AUG-2000
DEFINITION	Sequence 4 from Patent WO9855607.				
ACCESSION	AX002781				
VERSION	AX002781.1	GI:9885109			
KEYWORDS					
SOURCE					
ORGANISM	synthetic construct.				
REFERENCE	artificial construct.				
AUTHORS	1 (bases 1 to 738)				
TITLE	Bebbington,C.R. and Carroll,M.W.				
JOURNAL	Vector				
	Patent: WO 9855607-A 4 10-DEC-1998;				
	BEBBINGTON CHRISTOPHER ROBERT (GB) ; CARROLL MILES WILLIAM (GB)				
FEATURES	Location/Qualifiers				
source	1..738				
	/organism="synthetic construct"				
	/db_xref="taxon:32630"				
	1..>738				
	/note="unnamed protein product"				
	/codon_start=1				
	/transl_table=1				
	/protein_id="CAC04193.1"				
	/db_xref="GI:9885110"				
	/translation="MGLSNLIFVMAFLIGAPLKIQAYPEETADLPQCFRANSONSL				
	SELVVEQDQENTVINEVYLGKREKFSVHSHKMGRTSFDSDSTLRHLNQTOKGLY				
	QCIIHKKPTGMRIHOMNSLSVLANFSQPEYVPSNTTENVINLTGSSIHGYPP				
	KKMSVLRTNNTSYEDGIMOKSQDNTVELYDVISLSVSPDVTSMNLTFFCLETDK				
	TRLSSPFSLELDDPPPHIGGGGS"				
BASE COUNT	215 a 168 c 148 g 207 t				
ORIGIN					
Query Match	3.3%; Score 33; DB 6; Length 738;				
Best Local Similarity	100.0%; Pred. No. 6.9e-07;				
Matches	33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;				
OY	391 TCAAGTCTTGCTACTCTCAGTCACACCTGAATA 423				
Db	373 TCAAGTCTTGCTACTCTCAGTCACACCTGAATA 405				

RESULT 9
AX149548 738 bp DNA linear PAT 08-JUN-2001
LOCUS
DEFINITION Sequence 9 from Patent WO0136486.
ACCESSION AX149548
VERSION AX149548.1 GI:14347987
KEYWORDS
SOURCE synthetic construct.
ORGANISM synthetic construct
artificial sequences.
REFERENCE 1 (bases 1 to 738)
AUTHORS Kingsman,A.O., Kingsman,S.M., Bebbington,C.R., Carroll,M.W.,
Ellard,F.M. and Myers,K.A.
TITLE Antibodies
JOURNAL Patent: WO 0136486-A 9 25-MAY-2001;
Oxford Biomedica (UK) Limited (GB)
FEATURES
source 1..738
/organism="synthetic construct"
/db_xref="taxon:32630"
/note="B7-2.514.1"
BASE COUNT 215 a 168 c 148 g 207 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 738;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 423
Db 373 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 405
RESULT 10
AR147737 751 bp DNA linear PAT 08-AUG-2001
LOCUS
DEFINITION Sequence 34 from patent US 6225042.
ACCESSION AR147737
VERSION AR147737.1 GI:15111827
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6225042-A 34 01-MAY-2001;
Location/Qualifiers
FEATURES
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 429
RESULT 11
AR159759 751 bp DNA linear PAT 17-OCT-2001
LOCUS
DEFINITION Sequence 34 from patent US 6251627.
ACCESSION AR159759
VERSION AR159759.1 GI:16222532
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6251627-A 34 26-JUN-2001;
Location/Qualifiers
FEATURES
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 429
RESULT 12
AR160451 751 bp DNA linear PAT 17-OCT-2001
LOCUS
DEFINITION Sequence 34 from patent US 6255073.
ACCESSION AR160451
VERSION AR160451.1 GI:16224368
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6255073-A 34 03-JUL-2001;
Location/Qualifiers
FEATURES
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 391 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 423
Db 397 TCAGTGGCTGCTACTGCTCAGTCAACCTGAATA 429
RESULT 13
AR202407 751 bp DNA linear PAT 20-APR-2002
LOCUS
DEFINITION Sequence 34 from patent US 6362001.
ACCESSION AR202407
VERSION AR202407.1 GI:20256946
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 751)
AUTHORS Cal,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Method for producing a synthetic antigen presenting transformed
Drosophila cell
JOURNAL Patent: US 6362001-A 34 26-MAR-2002;
Location/Qualifiers
FEATURES
source 1..751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN
Query Match 3.3%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 6.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 271.953 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....aacacagctactacacagttt 987

Scoring table: OLIGO-MUC
Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002:*

- 1: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
- 2: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
- 3: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
- 4: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
- 5: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
- 6: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
- 7: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT:*
- 8: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT:*
- 9: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT:*
- 10: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT:*
- 11: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT:*
- 12: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT:*
- 13: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT:*
- 14: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT:*
- 15: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT:*
- 16: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT:*
- 17: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT:*
- 18: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT:*
- 19: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT:*
- 20: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
- 21: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
- 22: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
- 23: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
- 24: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	987	100.0	987	20	AAZ27915
2	987	100.0	987	20	AAZ27916
3	987	100.0	1897	20	AAZ27913
4	987	100.0	1897	20	AAZ27914
5	704	71.3	840	20	AAZ27923
6	704	71.3	840	20	AAZ27924
7	704	71.3	1795	20	AAZ27921
8	704	71.3	1795	20	AAZ27922
9	61	6.2	996	20	AAZ27931

C	10	61	6.2	996	20	AAZ27932
C	11	61	6.2	1080	21	AAZ34838
C	12	61	6.2	1080	21	AAZ34785
C	13	61	6.2	1080	24	AAZ46840
C	14	61	6.2	1080	24	AAZ48230
C	15	61	6.2	2830	20	AAZ27929
C	16	61	6.2	2830	20	AAZ27930
C	17	56	5.7	509	20	AAZ27933
C	18	56	5.7	509	20	AAZ27934
C	19	44	4.5	764	18	AAZ62939
C	20	44	4.5	1050	21	AAZ49661
C	21	42	4.3	359	20	AAZ27935
C	22	42	4.3	359	20	AAZ27936
C	23	33	3.3	738	20	AAZ80923
C	24	33	3.3	738	22	AAZ89731
C	25	33	3.3	831	19	AAZ03230
C	26	33	3.3	972	20	AAZ33208
C	27	33	3.3	972	24	AAZ25510
C	28	33	3.3	1120	16	AAZ081351
C	29	33	3.3	1120	18	AAZ49181
C	30	33	3.3	1120	20	AAZ55784
C	31	33	3.3	1120	21	AAZ84049
C	32	33	3.3	1120	24	AAZ27968
C	33	33	3.3	1424	21	AAZ29321
C	34	33	3.3	1424	24	AAZ84193
C	35	33	3.3	1424	24	AAZ84193
C	36	33	3.3	1424	24	AAZ84193
C	37	33	3.3	1424	24	AAZ84193
C	38	33	3.3	1424	24	AAZ84193
C	39	32	3.2	2205	16	AAZ85873
C	40	32	3.2	330	18	AAZ49197
C	41	32	3.2	330	21	AAZ84082
C	42	27	2.7	403	20	AAZ89569
C	43	25	2.5	28	24	AAZ86513
C	44	25	2.5	25	21	AAZ34863
C	45	25	2.5	25	21	AAZ34815
C	46	25	2.5	25	21	AAZ34815
C	47	25	2.5	25	24	AAZ46866
C	48	25	2.5	25	24	AAZ46866
C	49	25	2.5	25	24	AAZ46866
C	50	25	2.5	25	24	AAZ46866
C	51	25	2.5	25	24	AAZ46866
C	52	25	2.5	25	24	AAZ46866
C	53	25	2.5	25	24	AAZ46866
C	54	25	2.5	25	24	AAZ46866
C	55	25	2.5	25	24	AAZ46866
C	56	25	2.5	25	24	AAZ46866
C	57	25	2.5	25	24	AAZ46866
C	58	25	2.5	25	24	AAZ46866
C	59	25	2.5	25	24	AAZ46866
C	60	25	2.5	25	24	AAZ46866
C	61	25	2.5	25	24	AAZ46866
C	62	25	2.5	25	24	AAZ46866
C	63	25	2.5	25	24	AAZ46866
C	64	25	2.5	25	24	AAZ46866
C	65	25	2.5	25	24	AAZ46866
C	66	25	2.5	25	24	AAZ46866
C	67	25	2.5	25	24	AAZ46866
C	68	25	2.5	25	24	AAZ46866
C	69	25	2.5	25	24	AAZ46866
C	70	25	2.5	25	24	AAZ46866
C	71	25	2.5	25	24	AAZ46866
C	72	25	2.5	25	24	AAZ46866
C	73	25	2.5	25	24	AAZ46866
C	74	25	2.5	25	24	AAZ46866
C	75	25	2.5	25	24	AAZ46866
C	76	25	2.5	25	24	AAZ46866
C	77	25	2.5	25	24	AAZ46866
C	78	25	2.5	25	24	AAZ46866
C	79	25	2.5	25	24	AAZ46866
C	80	25	2.5	25	24	AAZ46866
C	81	25	2.5	25	24	AAZ46866
C	82	25	2.5	25	24	AAZ46866

Complementary str
Feline CD86 (B7-2)
Cat CD86 (B7-2) cD
Feline CD86 coding
CDNA encoding feli
Feline B7-2 protei
Feline B7-2 gene c
Feline B7-2 protei
Feline B7-2 gene (Chimeric human/por
Pig costimulatory
Feline B7-2 protei
Feline B7-2 gene (Human B7-2 extrace
Nucleotide sequenc
DNA encoding CD86
B7-2 CDNA. Homo s
Human co-stimulat
Human B lymphocyte
Human B lymphocyte
Human B7-2 antigen
Human B lymphocyte
Human B7-2 CDNA.
Human B7-2 CDNA.
Human CDNA differe
Breast cancer rela
Stomach cancer rel
B70 type B antigen
Human cervical can
Human B lymphocyte
Human B7-2 variabl
EST clone CR506.
Human gene specif
Feline CD86 CDNA 5
Cat CD86 119and cd
Cat CD86 119and cd
Feline CD86 PCR pr
Feline CD86 PCR pr
Feline CD86 nested
Feline CD80 nested
Canine B7-25 DNA a
Ig-like V domain a
Ig-like V domain a
Reverse primer for
Human B7-2 Ig cons
Human B7-219c doma
Reverse primer for
Onco M gene signal
Human B lymphocyte
Human B7-2 constan
Jurkat cell CDNA c
Human B7-2 exon 5.
Drosophila melanog
Human CDNA clone (K
Cat CD86 coding se
CDNA encoding low-
CDNA encoding a pr
Human vesicle asso
Human CDNA encodin
Human CDNA sequenc
Human CDNA seq ID
Human EST-derived
Human CDNA encodin
CDNA encoding a pr
CDNA of the human
Human ORF2081
Human CDNA nucleot
Human CDNA encodin
Human S17 protein
Feline B7-2 gene s
Human B7-2 antisen

AAZ27916/c
ID AAZ27916 standard; DNA; 987 BP.
XX
AC AAZ27916;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of canine B7-2 coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Canis familiaris.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR MPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases -
XX
PS Claim 1; Page 103-104; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
Query Match 100.0%; Score 987; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 987; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ATGTATCTCAGATGACATATGAACTGAATACATTCCTTTGAGTACCTGCTGCTC 60
DB 987 ATGTATCTCAGATGACATATGAACTGAATACATTCCTTTGAGTACCTGCTGCTC 928
QY 61 TATGTCCTGCTTCCATGAGAGTCAAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
DB 927 TATGTCCTGCTTCCATGAGAGTCAAGCATATTTCAACAAGACTGAGAACTGCCATGC 868
QY 121 CATTTTACAATTTCTCAAAACATATAGCTGTGATGTTGGTAGTGTGTTGGCAGACAG 180
DB 867 CATTTTACAATTTCTCAAAACATATAGCTGTGATGTTGGTAGTGTGTTGGCAGACAG 808
QY 181 GATAGCTGGTTCTGTACGAGCTATACAGAGCAAGAAGAACCTCAAAATGTTCCATGCG 240
DB 807 GATAGCTGGTTCTGTACGAGCTATACAGAGCAAGAAGAACCTCAAAATGTTCCATGCG 748
QY 241 AAGTATAAGGGCCGACACGCTTGACAAAGACATTTGACACCTGAGACCTCATATATT 300
DB 747 AAGTATAAGGGCCGACACGCTTGACAAAGACATTTGACACCTGAGACCTCATATATT 688
QY 301 CAGATCAAGGACCAAGGGTGTATCATGTTGCTTCATCATTAAGGCCCAAGGACTC 360
|||||

DB 687 CAGATCAAGGACCAAGGGTGTATCATGTTGCTTCATCATTAAGGCCCAAGGACTC 628
QY 361 GTTCCCATGCAACCAAGATGAATTTGACCTATCATGCTTGTCTACTCAGTCAACCGAA 420
DB 627 GTTCCCATGCAACCAAGATGAATTTGACCTATCATGCTTGTCTACTCAGTCAACCGAA 568
QY 421 ATATGTTAATCTTAATAGAACAAAAATCTGGCATCATATATTTGACCTGCTCAATCC 480
DB 567 ATATGTTAATCTTAATAGAACAAAAATCTGGCATCATATATTTGACCTGCTCAATCC 508
QY 481 ATCAAGCTTACCCAGAACCCAGAGAGATGATTTTGTGTAATAACCGAATTCAGT 540
DB 507 ATCAAGGTTACCCAGAACCCAGAGAGATGATTTTGTGTAATAACCGAATTCAGT 448
QY 541 ACTAGTATGATCTGTCATGATGAAGAAATCTCAAAATATGTCACAGAACTTACAGGT 600
DB 447 ACTAGTATGATCTGTCATGATGAAGAAATCTCAAAATATGTCACAGAACTTACAGGT 388
QY 601 TCTATCAGCTTGTCCCTTCTCAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 660
DB 387 TCTATCAGCTTGTCCCTTCTCAGTCCCTGAGCAAGCAATGTGACATCTTCTGTCTCTG 328
QY 661 CACTTTGAGTCAATGAGCTTCCCTCCCTACCTTATATATATGATGACATACGAACCC 720
DB 327 CACTTTGAGTCAATGAGCTTCCCTCCCTACCTTATATATATGATGACATACGAACCC 268
QY 721 ACCCGTATGAGGACCAATCCTCTGATGAGGCTCTGCTTGTATGTTGATTTTG 780
DB 267 ACCCGTATGAGGACCAATCCTCTGATGAGGCTCTGCTTGTATGTTGATTTTG 208
QY 781 TGTGGATGCTGTCTTCTTCTAATAAGAAAGAAAGAAAGCAAGCAAGCTGGCCCTCT 840
DB 207 TGTGGATGCTGTCTTCTTCTAATAAGAAAGAAAGAAAGCAAGCAAGCTGGCCCTCT 148
QY 841 CATGATGTGAACCAACCAAAAGTGGAGAGAAAGAAAGTGGAGCGGACCAAGAAAGAGTA 900
DB 147 CATGATGTGAACCAACCAAAAGTGGAGAGAAAGAAAGTGGAGCGGACCAAGAAAGAGTA 88
QY 901 CGGTACCATGAAGCAAGAAAGATCTGATGAAGCCAGTGTGTATCATTTTGCAGACACT 960
DB 87 CGGTACCATGAAGCAAGAAAGATCTGATGAAGCCAGTGTGTATCATTTTGCAGACACT 28
QY 961 TCAGGCGACACAGTACTACACAGTTT 987
DB 27 TCAGGCGACACAGTACTACACAGTTT 1
RESULT 3
AAZ27913
ID AAZ27913 standard; DNA; 1897 BP.
XX
AC AAZ27913;
XX
DT 20-DEC-1999 (first entry)
XX
DE Canine B7-2 protein encoding DNA.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Canis familiaris.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.

```

XX  Sim G, Yang S, Sellins KS;
PI  WPI: 1999-571822/48.
XX  P-PSDB: AAY41076.
DR  New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX  treating, e.g. autoimmune and atopic diseases
XX  Claim 1: Page 97-99; 148bp; English.
XX  The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC  encoding nucleic acid molecules from dogs and cats. The nucleic acid molecules
CC  expressed by standard recombinant methodology. The nucleic acid molecules
CC  and the encoded proteins can be used for preventing or treating diseases,
CC  e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC  development, graft rejection, inflammation, arthritis and atopic diseases
CC  such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC  cats, cattle, sheep or pets. The products can also be used for detection,
CC  diagnosis and drug screening.
XX  Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;
SQ
Query Match      100.0%; Score 987; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 987; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY  1  ATGCTATTCAGATGCGATGATGGAATGATATTCATTCCTTTGGATGACCTGCTGCTC 60
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  6  ATGATTCACAGTGCATGATGGAATGATATTCATTCCTTTGGATGACCTGCTGCTC 65

OY  61  TATGCTGCTGCTTCCATGAGATGATCAAGCATATTTCAACAAGACTGAGACTGCCATGC 120
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  66  TATGCTGCTGCTTCCATGAGATGATCAAGCATATTTCAACAAGACTGAGACTGCCATGC 125

OY  121  CATTTTACAATTTCTCAAAACATTAAGCTGATGATGTTGGATGTTGGACGAGACAG 180
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  126  CATTTTACAATTTCTCAAAACATTAAGCTGATGATGTTGGATGTTGGACGAGACAG 185

OY  181  GATAAGCTGCTTCTGTAGAGCTATACAGAGGCAAGAAACCTCAAAATGTTTCATGCG 240
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  186  GATAAGCTGCTTCTGTAGAGCTATACAGAGGCAAGAAACCTCAAAATGTTTCATGCG 245

OY  241  AAGCTTAAGGGCCGCAACAAGCTTTGACAAGAAACATTTGACCTGACATCCATTAAT 300
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  246  AAGCTTAAGGGCCGCAACAAGCTTTGACAAGAAACATTTGACCTGACATCCATTAAT 305

OY  301  CAGATCAAGGACAGAGGCTTGTATCAATGTTTCTTCATCAATAAGGCCCAAGAGACTC 360
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  306  CAGATCAAGGACAGAGGCTTGTATCAATGTTTCTTCATCAATAAGGCCCAAGAGACTC 365

OY  361  GTTCCATGCGACCAATGATTAATTTGACCTATCAGTGTGTTGTAATCTTCAAGCTGAA 420
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  366  GTTCCATGCGACCAATGATTAATTTGACCTATCAGTGTGTTGTAATCTTCAAGCTGAA 425

OY  421  AATAATGTAATCTTAATAGAACAGAAATTTCTGGCATCATTAATTTGACCTGCTATCC 480
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  426  AATAATGTAATCTTAATAGAACAGAAATTTCTGGCATCATTAATTTGACCTGCTATCC 485

OY  481  ATACAGGTTTACCCAGAACCCAGAGAGATGTAATTTTTTGGTAAACCCGAGATTCAGT 540
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  486  ATACAGGTTTACCCAGAACCCAGAGAGATGTAATTTTTTGGTAAACCCGAGATTCAGT 545

OY  541  ACTAAGTATGATCTGTATGTAAGAAATCTCAAAATATGTCACAGAACTCTACAGGTT 600
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  546  ACTAAGTATGATCTGTATGTAAGAAATCTCAAAATATGTCACAGAACTCTACAGGTT 605

OY  601  TGTATAGCTTGTCTTCACTCCCTGAGCAAGCAATGTGACATCTTGTGTCCTG 660
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  606  TGTATAGCTTGTCTTCACTCCCTGAGCAAGCAATGTGACATCTTGTGTCCTG 665

OY  661  CAACCTTGAGTCAATGAGGCTTCCCTACCTATATTAATAGATGACATAGCAAAACC 720
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||

```

```

DB  666  CAACCTTGATCAATGAGGCTTCCCTCCCTACCTTATATATATGATGACATACGAAACCC 725
OY  721  ACCCTGATGAGAGACCAACATCTCTGATTTGCGGCTCTGCTTGAATGTTGTEATTTTG 780
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  726  ACCCTGATGAGAGACCAACATCTCTGATTTGCGGCTCTGCTTGAATGTTGTEATTTTG 785

OY  781  TGTGAGATGCTGCTTTTCTTAACACTAAGGAAAGAAAGAAAGACGCTGGCCCTCT 840
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  786  TGTGAGATGCTGCTTTTCTTAACACTAAGGAAAGAAAGAAAGACGCTGGCCCTCT 845

OY  841  CATGATGTGAACCAACCAAGTGGAGAGAAAGAAAGTGGACGACCAAGAAAGAGTA 900
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  846  CATGATGTGAACCAACCAAGTGGAGAGAAAGAAAGTGGACGACCAAGAAAGAGTA 905

OY  901  CGGTACCTTGAAGGAAAGATCTGATGAAGCCAGTGTGTTAACTTTGGAAGACAGCT 960
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  906  CGGTACCTTGAAGGAAAGATCTGATGAAGCCAGTGTGTTAACTTTGGAAGACAGCT 965

OY  961  TCAGGCGACACAGTACTACACAGTTT 987
    ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
DB  966  TCAGGCGACACAGTACTACACAGTTT 992

```

```

RESULT 4
AAZ27914/C
ID  AAZ27914 standard; DNA; 1897 BP.
XX
XX  AAZ27914;
AC  20-DEC-1999 (first entry)
XX
DE  Canine B7-2 gene complementary DNA sequence.
XX
XX  B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX  allergic reaction; infectious disease; tumor development; canine;
XX  graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX  Canis familiaris.
XX  WO99/47558-A2.
XX  23-SEP-1999.
XX
XX  19-MAR-1999; 99WO-US06187.
XX  PF
XX  19-MAR-1998; 98US-0078765.
XX  PR
XX  17-APR-1998; 98US-0062597.
XX
XX  (HESK-) HESKA CORP.
XX
PI  Sim G, Yang S, Sellins KS;
XX  WPI: 1999-571822/48.
XX
XX  New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX  treating, e.g. autoimmune and atopic diseases
XX  Claim 1: Page 101-102; 148bp; English.
XX
XX  The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX  encoding nucleic acid molecules from dogs and cats. The proteins can be
XX  expressed by standard recombinant methodology. The nucleic acid molecules
XX  and the encoded proteins can be used for preventing or treating diseases,
XX  e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX  development, graft rejection, inflammation, arthritis and atopic diseases
XX  such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX  cats, cattle, sheep or pets. The products can also be used for detection,
XX  diagnosis and drug screening.
XX
SQ  Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
Query Match      100.0%; Score 987; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;

```


Db 301 CAGATCAAGGACAGGCTTGTATCAATGTTCTTCATCATMAAGGCCCAAGGACTC 360
Oy 361 GTTCCCATGACACAGATGAATTCGTACCTATACAGTGTGCTTAACCTGATCAACCTGAA 420
Db 361 GTTCCCATGACACAGATGAATTCGTACCTATACAGTGTGCTTAACCTGATCAACCTGAA 420
Oy 421 ATATGATGATCTTCTAATAGACAGAAAATTCGTGATCATTAATTTGACCTGCTCATCC 480
Db 421 ATAAATGATGATCTTCTAATAGACAGAAAATTCGTGATCATTAATTTGACCTGCTCATCC 480
Oy 481 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCGAAATTCAGT 540
Db 481 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCGAAATTCAGT 540
Oy 541 ACTAAGTATGATCTGTATGATGAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
Db 541 ACTAAGTATGATCTGTATGATGAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
Oy 601 TCTATCAGCTTGTCTCTTCATGTCCTGATGACGATGAGACATCTTGTGTCTG 660
Db 601 TCTATCAGCTTGTCTCTTCATGTCCTGATGACGATGAGACATCTTGTGTCTG 660
Oy 661 CAACCTTGATCAATGAAGCTTCCCTCCCTACCTTATATATATAGA 704
Db 661 CAACCTTGATCAATGAAGCTTCCCTCCCTACCTTATATATATAGA 704

RESULT 6
AAZ27924/C
ID AAZ27924 standard; DNA; 840 BP.

AC AAZ27924;

DT 20-DEC-1999 (first entry)

DE Complementary strand of canine B7-2S coding sequence.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; canine;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062397.

PA (HESKA -) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 115; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.

SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;

Query Match 71.3%; Score 704; DB 20; Length 840;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 ATGATCTCAGATGCATATGAGAACTGAATTAACATTCCTCTTTGTGATGACCCCTGCTC 60
Db 840 ATGATCTCAGATGCATATGAGAACTGAATTAACATTCCTCTTTGTGATGACCCCTGCTC 781
Oy 61 TATGTCCTCTCTCCATGAGAGTCAAGCATATTTCAACAAGCTGAGAACTGCTATCC 120
Db 780 TATGTCCTCTCTCCATGAGAGTCAAGCATATTTCAACAAGCTGAGAACTGCTATCC 721
Oy 121 CATTTTACAATTCCTCAAAAACATTAACCTGATGAGTGTGATGTTTGGCAGACAG 180
Db 720 CATTTTACAATTCCTCAAAAACATTAACCTGATGAGTGTGATGTTTGGCAGACAG 661
Oy 181 GATTAAGCTGTTCTGTACAGCTATACAGAGGCAAGAACCCCTCAAAATGTTGATCCG 240
Db 660 GATTAAGCTGTTCTGTACAGCTATACAGAGGCAAGAACCCCTCAAAATGTTGATCCG 601
Oy 241 AACTATTAAGGGCGCGCAAGCTTTGACAAAGCAATTTGACCCCTGAGACTCATATAT 300
Db 600 AACTATTAAGGGCGCGCAAGCTTTGACAAAGCAATTTGACCCCTGAGACTCATATAT 541
Oy 301 CAGATCAAGGACAGAGGCTTGTATCAATGTTCTTCATCATTAAGGGCCCAAGGACTC 360
Db 540 CAGATCAAGGACAGAGGCTTGTATCAATGTTCTTCATCATTAAGGGCCCAAGGACTC 481
Oy 361 GTTCCCATGACACAGATGAATTCGTACCTATACAGTCTTGTACTTCAGTCAACCTGAA 420
Db 480 GTTCCCATGACACAGATGAATTCGTACCTATACAGTCTTGTACTTCAGTCAACCTGAA 421
Oy 421 ATATGATGATCTTCTAATAGACAGAAAATTCGTGATCATTAATTTGACCTGCTCATCC 480
Db 420 ATATGATGATCTTCTAATAGACAGAAAATTCGTGATCATTAATTTGACCTGCTCATCC 361
Oy 481 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCGAAATTCAGT 540
Db 360 ATACAGGTTACCCAGAACCCAGAGATGATATTTTGGTAAACCCGAAATTCAGT 301
Oy 541 ACTAAGTATGATCTGTATGATGAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 600
Db 300 ACTAAGTATGATCTGTATGATGAGAAATCTCAAAATATGTCACAGAACTCTACAGCTT 241
Oy 601 TCTATCAGCTTGTCTCTTCATGTCCTGATGACGATGAGACATCTTGTGTCTG 660
Db 240 TCTATCAGCTTGTCTCTTCATGTCCTGATGACGATGAGACATCTTGTGTCTG 181
Oy 661 CAACCTTGATCAATGAAGCTTCCCTCCCTACCTTATATATATAGA 704
Db 180 CAACCTTGATCAATGAAGCTTCCCTCCCTACCTTATATATATAGA 137

RESULT 7
AAZ27921
ID AAZ27921 standard; DNA; 1795 BP.

AC AAZ27921;

DT 20-DEC-1999 (first entry)

DE Canine B7-2S protein encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; canine;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO9947558-A2.


```

PD 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS.
XX
XX WPI; 1999-571822/48.
DR P-PSDB; AAY41078.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 109-111; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other:
XX
XX Query Match 71.3%; Score 704; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 ATGTATCTAGATGCACTATGACATGATTAACATCTCTTGTGTATGACCTCTGCTC 60
XX |
XX DB 7 ATGTATCTAGATGCACTATGACATGATTAACATCTCTTGTGTATGACCTCTGCTC 66
XX |
XX QY 61 TATGTCGTGCTTCATGACATGACATATTTCAACAGACTGAGACATGACATG 120
XX |
XX DB 67 TATGTCGTGCTTCATGACATGACATATTTCAACAGACTGAGACATGACATG 126
XX |
XX QY 121 CATTTTACAATTCGAAAAACATTAAGCCGTGATGAGTGGTGTGTTGGAGACAG 180
XX |
XX DB 127 CATTTTACAATTCGAAAAACATTAAGCCGTGATGAGTGGTGTGTTGGAGACAG 186
XX |
XX QY 181 GATAACCTGTTCTGTACAGCTATACAGAGCAAGAACACCTTAATATGTTATGCG 240
XX |
XX DB 187 GATAACCTGTTCTGTACAGCTATACAGAGCAAGAACACCTTAATATGTTATGCG 246
XX |
XX QY 241 AAGTATTAAGGGCGCACAAGCTTTGACAAAAGACATTTGACCTGAGCTCCATATAT 300
XX |
XX DB 247 AAGTATTAAGGGCGCACAAGCTTTGACAAAAGACATTTGACCTGAGCTCCATATAT 306
XX |
XX QY 301 CAGATCAAGGACAGGGCTTTGTATCAATGTTTCATCATTAAGAGGCCCAAGGACTC 360
XX |
XX DB 307 CAGATCAAGGACAGGGCTTTGTATCAATGTTTCATCATTAAGAGGCCCAAGGACTC 366
XX |
XX QY 361 GTTCCCATGACAGCATGATTTGACCTATGCTGCTTCACTTCACTGACACTGAA 420
XX |
XX DB 367 GTTCCCATGACAGCATGATTTGACCTATGCTGCTTCACTTCACTGACACTGAA 426
XX |
XX QY 421 ATATGCTAATCTCTATATAGAACAGAAATTCGACATCAATTAATTTGACCTGCTATCC 480
XX |
XX DB 427 ATATGCTAATCTCTATATAGAACAGAAATTCGACATCAATTAATTTGACCTGCTATCC 486
XX |
XX QY 481 ATACAAGTTTACCAGAACCCCAAGAGATGATTTTGTGTAATAAACCGAATTCAGT 540
XX |
XX DB 487 ATACAAGTTTACCAGAACCCCAAGAGATGATTTTGTGTAATAAACCGAATTCAGT 546
XX |
XX QY 541 ACATAGATGATATCTGTCATGAGAAATTCGAATTAATGTCACAGACTCTCAAGCTT 600
XX |

```

```

DB 547 ACTAGATATGACTGTGATGAGAAATTCGAATTAATGTCACAGACTCTCAAGCTT 606
QY 601 TCTATACAGCTTGTCTCTCTGATGCTGAGACAGCAATGAGACATCTTGTGCTG 660
DB 607 TCTATACAGCTTGTCTCTCTGATGCTGAGACAGCAATGAGACATCTTGTGCTG 666
QY 661 CAACCTTGAGTCAATGACATGACCTTCCCTCCCTACCTTATATATAGA 704
DB 667 CAACCTTGAGTCAATGACATGACCTTCCCTCCCTACCTTATATATAGA 710
!
RESULT 8
AAZ27922/C
ID AAZ27922 standard; DNA; 1795 BP.
XX
XX AAZ27922;
XX
XX 20-DEC-1999 (first entry)
XX
XX Canine B7-2S gene complementary DNA sequence.
XX
XX B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 112-114; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other:
XX
XX Query Match 71.3%; Score 704; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 ATGTATCTAGATGCACTATGACATGATTAACATCTCTTGTGTATGACCTCTGCTC 60
XX |
XX DB 1789 ATGTATCTAGATGCACTATGACATGATTAACATCTCTTGTGTATGACCTCTGCTC 1730
XX |
XX QY 61 TATGTCGTGCTTCATGACATGACATATTTCAACAGACTGGAAGACTGCAATGC 120
XX |
XX DB 1729 TATGTCGTGCTTCATGACATGACATATTTCAACAGACTGGAAGACTGCAATGC 1670
XX |
XX QY 121 CATTTTACAATTCGAAAAACATTAAGCCGTGATGAGTGGTGTGTTGGAGACAG 180
XX |

```

```

Db 1669 CATTTCACAATTCCTCAAAACATAGCCCTGATGAGTGGTGTGTTGGCAGGACCAAG 1610
QY 181 GATAGCTGGTCTGTAGCAGCTATATACAGAGGCAAGAACCCCTCAAAATGTTTCATGC 240
Db 1609 GATTAACCTGGTCTGTAGCAGCTATATACAGAGGCAAGAACCCCTCAAAATGTTTCATGC 1550
QY 241 AAGTATTAAGGGCGGACAGCTTTGACAAAGACAAATTTGGACCTTAGACTCATTAATTT 300
Db 1549 AAGTATTAAGGGCGGACAGCTTTGACAAAGACAAATTTGGACCTTAGACTCATTAATTT 1490
QY 301 CAGATCAAGACAGAGGCTTTGATCATATGTTCTGTCATCATTAAGGGCGGCAAGAGCTC 360
Db 1489 CAGATCAAGACAGAGGCTTTGATCATATGTTCTGTCATCATTAAGGGCGGCAAGAGCTC 1430
QY 361 GTTCCCATGACACAGATGATTTCTGACCTATCATGCTTGTCTACCTGATCAACCTGAA 420
Db 1429 GTTCCCATGACACAGATGATTTCTGACCTATCATGCTTGTCTACCTGATCAACCTGAA 1370
QY 421 ATAATGTAAGTCTTAATAGAACAAATTTCTGTCATCATTAATTTGACCTGCTCATCC 480
Db 1369 ATAATGTAAGTCTTAATAGAACAAATTTCTGTCATCATTAATTTGACCTGCTCATCC 1310
QY 481 ATACAAGGTTACCCAGAACCCAGAGAGATGATTTTGTGTAAGAACCGAGAAATTCAGT 540
Db 1309 ATACAAGGTTACCCAGAACCCAGAGAGATGATTTTGTGTAAGAACCGAGAAATTCAGT 1250
QY 541 ACTAGTATGATCTGTATGATGAGAAATCTCAAAATTAATGTCAGAGAACTGTACAGCTT 600
Db 1249 ACTAGTATGATCTGTATGATGAGAAATCTCAAAATTAATGTCAGAGAACTGTACAGCTT 1190
QY 601 TCTATCAGCTTGTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 660
Db 1189 TCTATCAGCTTGTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1130
QY 661 CAACCTTGAGTCAATGACGTTCCCTCCCTACCTTATATATAGA 704
Db 1129 CAACCTTGAGTCAATGACGTTCCCTCCCTACCTTATATATAGA 1086

RESULT 9
AAZ27931
ID AAZ27931 standard; DNA; 996 BP.
XX
XX AAZ27931;
XX
XX 20-DEC-1999 (first entry)
XX
XX Feline B7-2 protein coding sequence.
XX
XX B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Felis catus.
XX
XX WO947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX P-PsDB; AAY41079.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX

```

```

XX
XX Claim 1: Page 123-124; 148pp; English.
PS
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
Query Match 6.2%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 6.7e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCATGAGAGTCAAGCATATTTTCACAAGACTGAGAACTGCCATGCAATTTACAA 130
Db 74 CTTCATGAGAGTCAAGCATATTTTCACAAGACTGAGAACTGCCATGCAATTTACAA 133
QY 131 A 131
Db 134 A 134

RESULT 10
AAZ27932/C
ID AAZ27932 standard; DNA; 996 BP.
XX
XX AAZ27932;
XX
XX 20-DEC-1999 (first entry)
XX
XX Complementary strand of feline B7-2 coding sequence.
XX
XX B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Felis catus.
XX
XX WO947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1: Page 124-125; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritis and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX

```

```

XX SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
Query Match 6.2%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 6.7e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGACATGCCATTTACAA 130
Db 923 CTTCCATGAGAGTCACATATTTCACACAGACTGAGACATGCCATTTACAA 864
Oy 131 A 131
Db 863 A 863

RESULT 11
AA234838
ID AA234838 standard; cDNA; 1080 BP.
XX
AC AA234838;
XX
DT 28-FEB-2000 (first entry)
XX
DE Feline CD86 (B7-2) cDNA.
XX
KM CD86; B7-2; feline; cat; recombinant virus; vaccine;
KM immunomodulator; tumour; cancer; therapy; ss.
XX
OS Felis domesticus.
XX
FH Key Location/Qualifiers
FT CDS 63..1052
FT /*tag= a

XX WO957295-A1.
XX
XX 11-NOV-1999.
XX
XX 30-APR-1999; 99WO-US09504.
XX
XX 01-MAY-1998; 98US-0071711.
XX
PA (SCHE ) SCHERING-PLOUGH LTD.
PA (SCHE ) SCHERING-PLOUGH VETERINARY CORP.
PI Winslow BJ, Cochran MD;
XX
XX WPI: 2000-062155/05.
XX P-PSDB: AAY32285.
XX
XX Novel recombinant virus useful as immunomodulators, particularly in
XX vaccines
XX
XX Disclosure; Fig 3A; 230pp; English.
XX
XX This is the nucleotide sequence of cDNA coding for feline CD86
XX (B7-2). The cDNA was isolated from feline peripheral blood
XX mononuclear cell cDNA by PCR. Manipulating the expression of CD28
XX or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
XX regulates T cell proliferation and cytokine release. The invention
XX relates to a recombinant virus that contains at least one foreign
XX nucleic acid, inserted into a nonessential genomic region, that
XX encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
XX immunogenic fragments, and is expressed when the recombinant virus
XX is introduced into a suitable host. The invention also provides:
XX a recombinant virus further comprising a foreign nucleic acid
XX encoding an immunogen derived from a feline pathogen; recombinant
XX viruses capable of enhancing an immune response to protect against
XX disease; recombinant viruses expressing antisense sequences,
XX capable of suppressing an immune response in a feline, e.g., for
XX treatment of autoimmune disease or transplant rejection; and
XX recombinant viruses expressing DNA encoding CD80 and/or CD86 used

```

```

CC to reduce or eliminate a tumour in cats.
XX SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
Query Match 6.2%; Score 61; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 6.7e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 71 CTTCCATGAGAGTCACATATTTCACACAGACTGAGACATGCCATTTACAA 130
Db 136 CTTCCATGAGAGTCACATATTTCACACAGACTGAGACATGCCATTTACAA 195
Oy 131 A 131
Db 196 A 196

RESULT 12
AA234785
ID AA234785 standard; cDNA; 1080 BP.
XX
AC AA234785;
XX
DT 15-FEB-2000 (first entry)
XX
DE Cat CD86 (B7-2) cDNA.
XX
KM CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
KM FIV; feline leukaemia virus; feline infectious peritonitis virus;
KM feline parvovirus; feline calicivirus; feline reovirus-3;
KM feline rotavirus; feline coronavirus; feline syncytial virus;
KM feline sarcoma virus; feline herpesvirus; feline Borna disease;
KM rabies virus; chlamydia; Toxoplasmosis gondii; Dirofilaria immitis;
KM parasite; autoimmune disease; transplant rejection; therapy; ss.
XX
XX Felis domesticus.
XX
XX Key Location/Qualifiers
XX FT CDS 63..1055
XX FT /*tag= a

XX WO957271-A2.
XX
XX 11-NOV-1999.
XX
XX 30-APR-1999; 99WO-US09502.
XX
XX 01-MAY-1998; 98US-0071699.
XX
XX (TEXAS ) TEXAS A & M SYSTEM.
XX
XX Collison EW, Hash SM, Choi I;
XX
XX WPI: 2000-052972/04.
XX P-PSDB: AAY32278.
XX
XX Novel feline proteins used to produce feline vaccines which prevent
XX infectious disease or to promote growth in homologous or heterologous
XX species
XX
XX Claim 6; Fig 3A; 186pp; English.
XX
XX This is the nucleotide sequence of cDNA encoding feline CD86
XX (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
XX peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
XX comprising nucleic acid encoding feline CD86 ligand or feline
XX soluble CD80 ligand is designated PST-2#19-2/011298 (ATCC 209821).
XX The coexpression of CD86 with the costimulatory molecules CD28 (see
XX AAY32279) and a tumour antigen or an antigen from a pathogenic
XX organism has the ability to activate or enhance activation of
XX T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
XX the ability to regulate activation of T-lymphocytes. The invention
XX provides isolated nucleic acids encoding feline CD86 ligand,

```

CC feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
 CC (CD152) receptor, as well as vectors comprising the nucleic acids,
 CC and polypeptides encoded by the nucleic acids. It also provides
 CC vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
 CC further comprising immunogens derived from pathogens, especially
 CC feline immunodeficiency virus (FIV), feline leukaemia virus,
 CC feline infectious peritonitis virus, feline panleukopenia virus,
 CC feline calicivirus, feline reovirus-3, feline rotavirus, feline
 CC coronavirus, feline syncytial virus, feline sarcoma virus, feline
 CC herpesvirus, feline borna disease virus, rabies virus, chlamydia,
 CC toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
 CC pathogen, or parasite (all claimed). Vaccines capable of
 CC enhancing an immune response, and vaccines capable of suppressing
 CC an immune response (suitable for treating an autoimmune disease
 CC or tissue or organ transplant rejection) are claimed. The
 CC nucleic acids may be used for gene therapy or antisense therapy.
 CC protocols.
 CC
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 6.2%; Score 61; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGTCATGATTTTCACAGAGCTGAGAGCTGCCATGTCATTTTACAA 130
 |||||||
 Db 136 CTTCCATGAGAGTCATGATTTTCACAGAGCTGAGAGCTGCCATGTCATTTTACAA 195
 QY 131 A 131
 |
 Db 196 A 196

RESULT 13

AA146840
 ID AA146840 standard; cDNA; 1080 BP.

AC AA146840;

DT 08-AUG-2002 (first entry)

XX Feline CD86 coding sequence.

XX Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
 KW feline immunodeficiency disease; feline infectious peritonitis;
 KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
 KW vituclide; immunomodulator; cytostatic; immunodeficiency; gene; ss.
 XX
 OS Fells catus.

PN US2002051792-A1.

PD 02-MAY-2002.

PF 30-APR-1999; 99US-0303040.

PR 01-MAY-1998; 98US-083870P.

PA (WINS/) WINSLOW B J.
 PA (COCH/) COCHRAN M D.

PI Winslow BJ, Cochran MD;

DR WPI; 2002-415200/44.

DR P-PSDB; AA017734.

PT New recombinant virus, useful for immunizing felines to prevent or
 PT treat feline immunodeficiency virus, comprises foreign nucleic acid
 PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
 PT CD86 or CTLA-4
 PS Disclosure; Fig 3; 77pp; English.

CC The present invention relates to a recombinant virus comprising at least
 CC one foreign nucleic acid encoding a protein selected from feline
 CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
 CC which is capable of expression when the virus is introduced into an
 CC appropriate host. The virus can be administered to the feline in order to
 CC elicit or enhance an immune response to prevent or treat feline
 CC immunodeficiency disease, feline leukaemia, feline infectious peritonitis,
 CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
 CC present sequence is the coding sequence of a cytotoxic T lymphocyte
 CC accessory molecule described in the exemplification of the invention.
 CC
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 6.2%; Score 61; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 6.7e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAGAGTCATGATTTTCACAGAGCTGAGAGCTGCCATGTCATTTTACAA 130
 |||||||
 Db 136 CTTCCATGAGAGTCATGATTTTCACAGAGCTGAGAGCTGCCATGTCATTTTACAA 195
 QY 131 A 131
 |
 Db 196 A 196

RESULT 14

ABK48230
 ID ABK48230 standard; cDNA; 1080 BP.

AC ABK48230;

DT 02-JUL-2002 (first entry)

XX cDNA encoding feline CD86 protein.

XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
 KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 KW feline leukaemia; Feline; calicivirus; rotavirus; reovirus type 3;
 KW coronavirus; herpes; borna disease.
 XX

OS Fells sp.

EH Key Location/Qualifiers

FT CDS 63..1052

FT /*tag= a

PN US2002028208-A1.

PD 07-MAR-2002.

PF 30-APR-1999; 99US-0303510.

PR 01-MAY-1998; 98US-083869P.

PA (COLL/) COLLISSEON E W.

PA (HASH/) HASH S M.

PA (CHOL/) CHOI I.

PI Collisson EW, Hash SM, Choi I;

DR WPI; 2002-315045/35.

DR P-PSDB; AA078121.

PT Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 PT receptor or CTLA-4 receptor as vaccine for inducing immune response in
 PT feline suffering from autoimmune disease or tissue or organ transplant
 PS Claim 6; Fig 3A; 73pp; English.

XX This invention relates to the DNA and protein sequences encoding a
CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
CC invention also relates to a vaccine comprising an effective amount of
CC these receptor proteins. A vaccine is useful for inducing immunity or
CC enhancing an immune response in a cat. The protein sequences of the
CC invention are useful for suppressing an immune response in a feline
CC suffering from an autoimmune disease or the recipient of a tissue or
CC organ transplant. A vector containing the DNA sequences of the
CC invention is useful for redirecting an immune response in a feline to an
CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
CC flea, feline immunodeficiency virus, feline leukaemia (FeLV), feline
CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
CC sarcoma virus, borre disease virus or a parasite. The protein sequences
CC may be further utilized to promote growth in homologous or heterologous
CC feline species. Enhancement of immunity through the interaction of an
CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
CC immune response through the interaction of feline CD80 or CD86 with
CC CTLA-4 takes advantage of the natural process of regulation rather than
CC adding foreign substances that could have multiple, even detrimental
CC effects on overall or long term health. The present sequence represents
CC a cDNA encoding the feline CD86 protein of the invention.
XX
SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
Query Match 6.2%; Score 61; DB 24; Length 1080;
Best Local Similarity 100.0%; Pred. No. 6.7e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTCACAA 130
DB 136 CTTCCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTCACAA 195
QY 131 A 131
DB 196 A 196
RESULT 15
AAZ27929
ID AAZ27929 standard; DNA; 2830 BP.
XX
AC AAZ27929;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein encoding DNA.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN MO9947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
DR P-PSDB: AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 116-119; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;
Query Match 6.2%; Score 61; DB 20; Length 2830;
Best Local Similarity 100.0%; Pred. No. 6.6e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTCACAA 130
DB 252 CTTCCATGAGAGTCAAGCATATTTCACAGACTGAGAGACTGCCATTTCACAA 311
QY 131 A 131
DB 312 A 312
RESULT 16
AAZ27930/C
ID AAZ27930 standard; DNA; 2830 BP.
XX
AC AAZ27930;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 gene complementary DNA sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN MO9947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 121-123; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,

Db 327 AACACTAAGGAAAGGAGAAGACCGCCTGGCCCTCTCATGATGTGAACCA 382

OS Chimeric Homo sapiens;

```

OS Chimeric sus scrofa.
XX
FH Key Location/Qualifiers
FT CDS 7..749
FT /tag= a
FT /note= "the porcine CD86 sequence spans
FT sig_peptide 7..81
FT mat_peptide 82..756
FT /tag= c
XX
XX WO9711971-A1.
XX
XX 03-APR-1997.
XX
XX 27-SEP-1996; 96WO-US15575.
XX
XX 26-SEP-1996; 96US-0004489.
XX
XX 28-SEP-1995; 95US-0004489.
XX
XX (ALEX-) ALEXION PHARM INC.
XX
XX Evans MJ, Matis LA, Mueller EE, Mueller JP, Rollins S;
XX Rother RP;
XX
XX WPI: 1997-212855/19.
XX P-PSDB; AAMI4944.
XX
XX Antibodies binding to porcine but not human cell interaction
XX proteins - useful to treat and assay for rejection of xenografted
XX porcine organs, tissues or cells
XX
XX PS Disclosure: Page 69-70; 105pp; English.
XX
XX A DNA construct (AA162939) codes for a chimeric human/porcine
XX CD86 (B7-2) cell adhesion molecule. RT-PCR was used to amplify
XX an internal segment of the porcine CD86 gene from RNA isolated
XX from lipopolysaccharide-stimulated porcine peripheral blood
XX lymphocytes. A second PCR fragment encoding a truncated N-terminus
XX was prep. by 5'RACE PCR. The partial gene fragment was fused to
XX the C-terminal 49 amino acids of the human CD86 IgC domain by
XX overlapping PCR; the 3' primer included 15 nucleotides encoding a
XX histidine tag. Antibodies to porcine CD86 protein are useful for
XX diagnosing human rejection of porcine xenotransplants and for
XX improving xenotransplantation of porcine cells, tissues and organs
XX into human recipients.
XX
XX SQ Sequence 764 BP; 218 A; 197 C; 148 G; 201 T; 0 other;
XX
XX Query Match 4.5%; Score 44; DB 18; Length 764;
XX Best Local Similarity 100.0%; Pred. No. 1.7e-11;
XX Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX OY 381 TTCTGACCTATCAGTGGCTTGTCACTCACTCACTGAATAA 424
XX |||||||
XX DB 387 TTCTGACCTATCAGTGGCTTGTCACTCACTCACTGAATAA 430
XX
XX RESULT 20
XX ID AAA49661 standard; cDNA; 1050 BP.
XX
XX AC AAA49661;
XX
XX DT 25-SEP-2000 (first entry)
XX
XX DE Pig costimulatory molecule CD86 (B7-2) cDNA.
XX
XX KW Co-stimulatory molecule; CD86; B7-2; pig; immunosuppressive;
XX xerotransplantation; organ transplant; vaccine; ss.
XX
XX OS Sus scrofa.

```

```

XX
XX Key Location/Qualifiers
XX FT CDS 36..1013
XX FT /tag= a
XX
XX WO200037102-A2.
XX
XX 29-JUN-2000.
XX
XX 17-DEC-1999; 99WO-GB04200.
XX
XX 19-DEC-1998; 98GB-0027921.
XX
XX 23-OCT-1999; 99GB-0025015.
XX
XX (MLML-) ML LAB PLC.
XX
XX Lechler RI, Rogers NJ, Dorling A;
XX
XX WPI: 2000-442537/38.
XX P-PSDB; AAY95321.
XX
XX Novel methods for improving tolerance to a xenograft comprising
XX immunizing a mammal with a T-cell epitope and a B-cell epitope -
XX Disclosure: Fig 3; 81pp; English.
XX
XX The present sequence is that of cDNA clone CD86(1), which encodes
XX pig co-stimulatory molecule CD86 (B7-2) (see AAY95321). The clone
XX was obtained by PCR amplification of pig cDNA using primers (see
XX AA49662-63) based on a published pig B7-2 sequence. The invention
XX relates to a novel strategy to inhibit costimulation by porcine
XX cells of human T cells, with particular importance in the context
XX of xerotransplantation of porcine organs. Recipients are immunised
XX with hybrid synthetic peptides comprising a T cell epitope
XX conjugated to sequences of the porcine costimulatory molecules
XX CD86, CD86 or CD40. Peptides that induce antibodies specific for
XX regions of costimulatory molecules involved in binding to their
XX counter-receptors on human cells (CD28 and CD14) are capable of
XX blocking the delivery of costimulation. Once the antibody response
XX has been induced, the transplanted organ will recall this response
XX due to the expression of the costimulatory molecules, thereby
XX sustaining the response, and providing an endogenous mechanism of
XX costimulatory blockade. The method is useful for improving the
XX tolerance of a host to xenografts, particularly porcine pancreatic
XX islet cells.
XX
XX SQ Sequence 1050 BP; 305 A; 260 C; 227 G; 258 T; 0 other;
XX
XX Query Match 4.5%; Score 44; DB 21; Length 1050;
XX Best Local Similarity 100.0%; Pred. No. 1.7e-11;
XX Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX OY 381 TTCTGACCTATCAGTGGCTTGTCACTCACTCACTGAATAA 424
XX |||||||
XX DB 398 TTCTGACCTATCAGTGGCTTGTCACTCACTCACTGAATAA 441
XX
XX RESULT 21
XX ID AA227935 standard; DNA; 359 BP.
XX
XX AC AA227935;
XX
XX DT 20-DEC-1999 (first entry)
XX
XX DE Feline B7-2 protein (smaller fragment) encoding DNA.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX OS Felis catus.

```

```
PN W09947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX
XX Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
XX P-PSDB; AAY41081.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 127-128; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
XX
XX
XX Query Match 4.3%; Score 42; DB 20; Length 359;
XX Best Local Similarity 100.0%; Pred. No. 1.7e-10;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 540 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 581
XX |||||||||||||||||||||||||||||||||||||||
XX Db 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
XX
XX RESULT 22
XX AA227936/C
XX ID AA227936 standard; DNA; 359 BP.
XX
XX AC AA227936;
XX
XX DT 20-DEC-1999 (first entry)
XX
XX DE Feline B7-2 gene (smaller fragment) complementary DNA sequence.
XX
XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; feline;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX OS Felis catus.
XX
XX WO9947558-A2.
XX
XX PN 23-SEP-1999.
XX
XX PD 19-MAR-1999; 99WO-US06187.
XX
XX PF 19-MAR-1998; 98US-0078765.
XX
XX PR 17-APR-1998; 98US-0062597.
XX
XX
XX (HESK-) HESKA CORP.
XX
XX
XX Slim G, Yang S, Sellins KS;
XX
XX WPI; 1999-571822/48.
XX
```

```
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 129; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;
XX
XX
XX Query Match 4.3%; Score 42; DB 20; Length 359;
XX Best Local Similarity 100.0%; Pred. No. 1.7e-10;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 540 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 581
XX |||||||||||||||||||||||||||||||||||||||
XX Db 300 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 259
XX
XX RESULT 23
XX AA80293
XX ID AAV80293 standard; cDNA; 738 BP.
XX
XX AC AAV80293;
XX
XX DT 15-MAR-1999 (first entry)
XX
XX DE Human B7-2 extracellular domain and linker DNA.
XX
XX KW Tumour interacting protein; cancer; gene therapy; vector;
XX 5T4 antigen; monoclonal antibody; single chain antibody;
XX mouse; human; B7-2; co-stimulatory molecule; ss.
XX
XX OS Chimeric - Homo sapiens.
XX
XX OS Chimeric - synthetic.
XX
XX PN WO9855607-A2.
XX
XX PD 10-DEC-1998.
XX
XX PF 04-JUN-1998; *98WO-GB01627.
XX
XX PR 04-JUL-1997; 97GB-0014230.
XX
XX PR 04-JUN-1997; 97GB-0011579.
XX
XX PR 20-JUN-1997; 97GB-0013150.
XX
XX
XX (OXFO-) OXFORD BIOMEDICA UK LTD.
XX
XX Bebbington CR, Carroll MW, Ellard FM, Kingsman SM;
XX Myers KA;
XX
XX WPI; 1999-059910/05.
XX
XX DR P-PSDB; AAW86005.
XX
XX
XX New vector encoding a tumour interacting protein for treating cancer
XX - contains a desired nucleotide sequence and/or protein which
XX recognises tumours, and is used as a gene delivery system to treat
XX cancer
XX
XX Example 5; Fig 4; 82pp; English.
XX
XX This DNA sequence encodes a polypeptide (see AAW86005) comprising
XX the extracellular domain (amino acids 1-215) of human co-stimulatory
XX molecule B7-2 joined to a C-terminal flexible peptide linker. This
XX is part of the coding sequence of B7-2.5T4.1 co-stimulatory domain,
XX a DNA sequence encoding a fusion protein comprising the B7-2
```


CC extracellular domain joined via the linker to an scfv (see AAW66002)
 CC derived from murine 5T4 monoclonal antibody. The cDNA can be
 CC inserted into vector pCI to allow expression of the fusion protein
 CC in mammalian cells. The trophoblast cell surface antigen defined
 CC by 5T4 is expressed at high levels on the cells of a wide variety
 CC of human tumours. The invention relates to a vector comprising a
 CC nucleotide sequence coding for a tumour interacting protein (TIP)
 CC and optionally a nucleotide sequence of interest (NOI) which
 CC encodes a protein of interest (POI), the vector being capable of
 CC delivering the NOI and/or POI to the tumour recognised by the TIP.
 CC Delivery can be in vivo or ex vivo. The vector is used to treat
 CC cancer, and may also be used as a gene delivery system for
 CC introducing at least 1 gene encoding a TIP (preferably a tumour
 CC binding protein) into a haematopoietic cell lineage. B7-2 is
 CC expected to bind specifically to CD28 and CTLA-4 present on human
 CC T-cells.
 CC
 SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 20; Length 738;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGCCTGCTAACTTCAGTCACTGAATA 423
 ||||||||||||||||||||||||||||
 DB 373 TCAGTGCCTGCTAACTTCAGTCACTGAATA 405

RESULT 24

AAFB9731
 ID AAFB9731 standard; DNA; 738 BP.

AC AAFB9731;

DT 23-JUL-2001 (first entry)

DE Nucleotide sequence of a B7-2.5T4.1 fusion protein.

XX
 XX Single chain antibody; scfv; inflammatory disease; arthritis; cancer;
 KW hypersensitivity; autoimmune disease; central nervous system disorder;
 KW Parkinson's disease; periodontal disease; cardiopulmonary disease;
 KW cardiovascular disease; gastrointestinal disorder; infection; diabetes;
 KW Helicobacter-related disease; immune disorder; ss.
 XX
 OS Synthetic.
 OS Mus sp.
 OS Homo sapiens.

PH Key Location/Qualifiers
 FT 1..738
 FT CDS /*tag= a
 PN WO200136486-A2.
 XX
 PD 25-MAY-2001.
 XX
 PF 13-NOV-2000; 2000WO-GB04317.
 XX
 PR 18-NOV-1999; 99WO-GB03859.
 PR 15-FEB-2000; 2000GB-0003527.
 PR 02-MAR-2000; 2000GB-0005071.
 XX
 PA (OXFORD BIOMEDICA UK LTD.
 XX
 PI Kingsman A, Kingsman SM, Bebbington CR, Carroll MM, Ellard FM;
 PI Myers KA;
 DR WPI; 2001-343805/36.
 XX
 XX Use of single chain antibody capable of recognizing a disease
 PT associated molecule for manufacturing a medicament for preventing
 PT and/or treating a disease condition associated with disease associated
 PT molecule

XX
 PS Example 3; Fig 4; 118pp; English.

XX The specification describes the use of a single chain antibody (scfv),
 CC which is capable of recognizing a disease associated molecule in the
 CC manufacture of a medicament for the prevention and treatment of a
 CC disease condition. The scfv antibody is useful in the manufacture of
 CC a medicament for affecting a disease in vivo, for preparing a
 CC pharmaceutical composition, for in vivo imaging and/or for adjuvant
 CC treatment of a disease. The scfv antibody is also useful for
 CC treating inflammatory diseases including arthritis, hypersensitivity,
 CC autoimmune diseases, cancers, central nervous system disorders
 CC including Parkinson's disease, periodontal diseases, cardiopulmonary
 CC diseases, cardiovascular diseases, gastrointestinal disorders,
 CC infections, diabetes, Helicobacter-related diseases, and other immune
 CC disorders. The present sequence encodes a B7-2.5T4.1 fusion protein.
 CC This comprises the N-terminus of the 5T4 scfv is fused after amino acid
 CC 215 of human B7-2.
 CC
 SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 22; Length 738;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTGCCTGCTAACTTCAGTCACTGAATA 423
 ||||||||||||||||||||||||||||
 DB 373 TCAGTGCCTGCTAACTTCAGTCACTGAATA 405

RESULT 25

AAV03230
 ID AAV03230 standard; cDNA; 831 BP.

AC AAV03230;

DT 22-JUN-1998 (first entry)

DE DNA encoding CD86 extracellular domain in CD86FcalphaIplink.

XX
 XX Hexameric fusion protein; Iga; alpha-Ip; tailpiece; antibody;
 KW CD86; CD28; CTLA-4; vaccine; diagnosis; binding assay; screening;
 KW human; ds.
 XX
 OS Homo sapiens.

PH Key Location/Qualifiers
 FT sig_peptide 52..126
 FT /*tag= a
 FT mat_peptide 127..831
 FT /*tag= b
 PN WO9747732-A2.
 XX
 PD 18-DEC-1997.
 XX
 PF 13-JUN-1997; 97WO-US12599.
 XX
 PR 21-FEB-1997; 97US-0038915.
 PR 14-JUN-1996; 96US-0019934.
 PR 19-FEB-1997; 97US-0043948.
 XX
 PA (SMITHKLINE BEECHAM CORP.
 XX
 PI Chaikin MA, Lyn SDP, Sweet RW, Truneh A;
 PI P-ESDB; AAW32339.
 DR WPI; 1998-052299/05.
 DR P-ESDB; AAW32339.
 XX
 XX Hexameric fusion protein containing Iga antibody fragment - used for
 PT stimulating CD28 positive cells, or suppressing CTLA-4 positive
 PT cells
 PT
 XX

PS Example 1: Fig 5A-B; 105bp; English.
 CC This DNA sequence comprises a portion of plasmid CD86calphatlink
 CC that codes for the signal region and extracellular domain (see
 CC AAM42339) of human CD86 extracellular domain. The plasmid encodes a
 CC fusion protein comprising the CD86 signal peptide and extracellular
 CC domain grafted to a human IgG1 heavy chain Fc region and the
 CC tailpiece region (alpha-tp) (see AAM42344) of human IgA heavy chain.
 CC The processed fusion protein has been expressed as a hexamer in COS
 CC cells. The invention relates to novel hexameric fusion proteins
 CC comprising a dimeric binding protein such as CD86 provided at its
 CC C-terminus with a tailpiece that has the activity of alpha-tp. The
 CC tailpiece provides the fusion protein with the ability to form
 CC stable hexamers. Also claimed are polynucleotides encoding the
 CC hexameric fusion proteins, vectors, recombinant host cells and a
 CC method for producing the hexamers. The fusion protein is useful in
 CC therapeutics and vaccines, and is particularly well suited for
 CC applications for which the binding protein from which it is derived
 CC is unsatisfactory because of low binding affinity or for
 CC applications where multivalency is desired. Applications include
 CC diagnostics, binding assays and screening assays. CD86-Ig-alpha-tp
 CC fusion protein is used in claimed methods for stimulating CD28
 CC positive cells or suppressing CTLA-4 positive cells.
 CC
 SQ Sequence 831 BP; 247 A; 201 C; 162 G; 221 T; 0 other;
 Query Match 3.3%; Score 33; DB 19; Length 831;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 391 TCAGTCTGCTGTAACCTGACGTCACCTGAATA 423
 Db 442 TCAGTCTGCTGTAACCTGACGTCACCTGAATA 474
 ||||||||||||||||||||||||||||||||||||
 RESULT 26
 AAV83208
 ID AAV83208 standard; cDNA; 972 BP.
 XX
 AC AAV83208;
 XX
 DT 02-MAR-1999 (first entry)
 DE B7-2 cDNA.
 DE
 XX Mouse; immunodeficient; pathogen; tumour; lymphocyte; antigen;
 KW immunomodulator; vector; vaccine; cancer; HIV; leishmania;
 KW Mycobacterium; listeria; plasmidium; retrovirus; evaluation;
 KW human immunodeficiency virus; ds.
 XX
 OS Homo sapiens.
 XX
 PN WO9844788-A2.
 XX
 PD 15-OCT-1998.
 XX
 PF 09-APR-1998; 98WO-US06944.
 XX
 PR 09-DEC-1997; 97US-0069163.
 PR 09-APR-1997; 97US-0838702.
 PR 01-MAY-1997; 97US-0848760.
 XX
 PA (CHAN/) CHANG L.
 XX
 PI Chang L;
 XX
 DR WPI; 1999-024005/02.
 XX
 PT Use of immunodeficient mice comprising human cells - particularly
 PT SCID/Beige mice comprising human immune cells for evaluating
 PT vaccines against cancers or human pathogens, e.g. HIV
 XX
 PS Example 1b; Page 104-105; 154bp; English.

XX
 CC Immunodeficient mice comprising human cells can be used for
 CC exposure to human pathogens and/or their components or human
 CC tumor cells and human peripheral blood lymphocytes. Also claimed
 CC is a vaccine comprising a cell modified to express an antigen and
 CC an immune-modulating protein, this is preferably an expression
 CC vector comprising a polynucleotide sequence that encodes the
 CC antigen and immune-modulating protein. Such vectors can be used
 CC to treat a subject having a tumour by transferring the expression
 CC vector into the tumour so that the antigen and the immune-modulator
 CC are expressed by at least the tumour. The methods can be used for
 CC producing and evaluating vaccines including cancer vaccines and
 CC vaccines directed against human pathogens, e.g. HIV, leishmania,
 CC Mycobacterium, listeria or plasmidium. This sequence is an
 CC intermediate retroviral vector derived from pLNL6, a vector approved
 CC for clinical use in the United States. pLNL is essentially pLNL6
 CC digested with ClaI and BclI to remove cloning sites and the pLNL6
 CC internal Sneo gene. These were replaced with a polylinker. A neo
 CC gene was then inserted under the transcriptional control of the SV40
 CC enhancer/promoter to create the vector pLSN. Two primers (AAV83187,
 CC AAV83188) were used to amplify the B7-2 cDNA (a ligand for
 CC CD28/CTLA-4 proteins, co-stimulators for interleukin-2 driven
 CC proliferation of T-cells) for its insertion into pLSN.
 CC
 SQ Sequence 972 BP; 304 A; 204 C; 194 G; 270 T; 0 other;
 Query Match 3.3%; Score 33; DB 20; Length 972;
 Best Local Similarity 100.0%; Pred. No. 4.8e-06;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 391 TCAGTCTGCTGTAACCTGACGTCACCTGAATA 423
 Db 373 TCAGTCTGCTGTAACCTGACGTCACCTGAATA 405
 ||||||||||||||||||||||||||||||||||||
 RESULT 27
 AAD25510
 ID AAD25510 standard; DNA; 972 BP.
 XX
 AC AAD25510;
 XX
 DT 26-MAR-2002 (first entry)
 DE Human co-stimulatory molecule, B7-2 DNA.
 DE
 XX Human; vaccine; immunostimulatory molecule; interferon; IFN; therapy;
 KW antigen presentation; vaccine; tumorigenesis; cancer; cytostatic;
 KW antitumour; antibacterial; virucide; fungicide; protozoacide; B7-2; ds.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT CDS 1..972
 FT /tag= a
 FT /product= "Human B7-2 protein"
 XX
 PN WO200188097-A1.
 XX
 PD 22-NOV-2001.
 XX
 PF 17-MAY-2001; 2001WO-AU00565.
 XX
 PR 17-MAY-2000; 2000AU-0007553.
 XX
 PA (MONU) UNIV MONASH.
 XX
 PI Ralph SJ;
 XX
 DR WPI; 2002-082990/11.
 DR P-PSDB; AAE15830.
 XX
 PT New composition, useful for treatment and/or prophylaxis of cancer and
 PT tumor, comprises immunostimulatory molecule and animal cells cultured

XX

PS Example 4; Page 93-94; 171pp; English.

XX A CDNA clone (AA149181), designated clone 29, codes for the

CC B-lymphocyte antigen B7-2 (AA08467), a CTLA4/CD28 ligand which

CC costimulates T cell activation. It was obtd. by transfecting COS

CC cells with a human anti-IgM activated B cell cDNA library, reacting

CC transfectants with CTLA4lg and CD28lg, and panning with anti-human

CC IgG antibody. E. coli transfected with a vector contry. the cDNA

CC insert of clone 29 was deposited as ATCC 69357. Nucleic acids

CC encoding the extracellular domain, variable region-like domain or

CC constant region-like domain of B7-2 (see also AA149197-98) are used

CC to construct novel fusion proteins with e.g. an immunoglobulin

CC constant region. These can be expressed in host cells and used to

CC enhance or suppress T cell-mediated immune responses.

XX Sequence 1120 BP; 354 A; 237 C; 230 G; 299 T; 0 other;

SO

Query Match 3.3%; Score 33; DB 18; Length 1120;

Best Local Similarity 100.0%; Pred. No. 4.8e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTCTGCTAACTCACTCAACCTGAATA 423

Db 497 TCAGTGTCTGCTAACTCACTCAACCTGAATA 529

RESULT 30

AAV55784

ID AAV55784 standard; CDNA: 1120 BP.

XX AAV55784;

AC

XX AAV55784;

AC

XX 23-MAR-1999 (first entry)

DT

XX Human B7-2 antigen coding sequence.

DE

XX B7-2 antigen; mammalian tumour cell; T cell costimulation; CD28 ligand;

KW CTLA4 ligand; therapy; T-cell response; human; ss.

KM

XX Homo sapiens.

OS

XX Key Location/Qualifiers

FH CDS 107..1096

FT /**tag= a

FT

XX US5861310-A.

PN

XX 19-JAN-1999.

PD

XX 30-MAY-1995; 95US-0456104.

PE

XX 30-MAY-1995; 95US-0456104.

PF

XX 03-NOV-1993; 93US-0147773.

PR

XX (DAND) DANA FARBER CANCER INST INC.

PA

XX Freeman GJ, Gray GS, Nadler LM;

PI

XX WPI: 1999-130394/11.

DR

XX P-PSDB: AAW/3638.

DR

XX Tumour cell transfected to express B7-2 molecule - useful for tumour

PT therapy by stimulating T-cell response

PT

XX Claim 9; Column 27-30; 27pp; English.

PS

XX This sequence encodes the human B7-2 antigen, which can be used in the

CC method of the invention. The method is for transfecting an isolated

CC mammalian tumour cell, with an exogenous nucleic acid molecule encoding a

CC mammalian B7-2 molecule, where the B7-2 molecule is expressed in the

CC tumour cell is capable of costimulating a T cell and is capable of

CC binding a CD28 or CTLA4 ligand. The method is useful for treating tumours

CC by stimulating a T-cell response against tumour cells in vivo.

XX Sequence 1120 BP; 354 A; 237 C; 230 G; 299 T; 0 other;

SO

Query Match 3.3%; Score 33; DB 20; Length 1120;

Best Local Similarity 100.0%; Pred. No. 4.8e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 391 TCAGTGTCTGCTAACTCACTCAACCTGAATA 423

Db 497 TCAGTGTCTGCTAACTCACTCAACCTGAATA 529

RESULT 31

AAAC84049

ID AAC84049 standard; CDNA: 1120 BP.

XX AAC84049;

AC

XX AAC84049;

AC

XX 28-MAR-2001 (first entry)

DT

XX Human B lymphocyte antigen B7-2 cDNA clone 29.

DE

XX Immunomodulator; fusion protein; human; murine; mouse; lymphocyte; CD28;

KW antigen; extracellular domain; CTLA4; immunoglobulin constant region;

KM immunogenicity; tumour; sarcoma; antigen presenting cell; macrophage;

KW T cell-mediated immune response; transplantation; vaccination; ss.

XX

OS

XX Homo sapiens.

PN

XX US6130316-A.

PD

XX 10-OCT-2000.

PE

XX 26-JUL-1994; 94US-0280757.

PF

XX 26-JUL-1993; 93US-0101624.

PR

XX 19-AUG-1993; 93US-0109393.

PR

XX 03-NOV-1993; 93US-0147773.

XX

PA (DAND) DANA FARBER CANCER INST INC.

PA (REPK) REPLIGEN CORP.

PI

XX Freeman GJ, Nadler LM, Gray GS, Greenfield E;

PI

XX WPI: 2000-655681/63.

DR

XX P-PSDB: AAB37085.

DR

XX Nucleic acids and fusion proteins of CTLA4/CD28 ligands, useful for

PT enhancing or suppressing T cell-mediated immune responses, especially

PT during tissue, skin or organ transplantation, or in graft-versus-host

PT disease

PT

XX Claim 43; Fig 8; 83pp; English.

PS

XX The invention relates to an isolated nucleic acid molecule encoding a

CC fusion protein comprising a first nucleotide sequence encoding a first

CC peptide, and a second nucleotide sequence encoding a second peptide.

CC The first nucleotide sequence hybridizes in 6 X sodium chloride/sodium

CC citrate (SSC) at 45 deg. C, followed by a wash in 0.2 X SSC at 50 deg. C

CC to a portion of a nucleotide sequence which encodes a human or murine

CC B lymphocyte antigen (B7-2) extracellular domain. The first peptide has

CC the ability to bind CD28 or CTLA4. The first peptide has an amino acid

CC sequence that is identical or at least 50% identical with the

CC extracellular domain of a human B7-2 peptide (AAB37085). The second

CC peptide is especially an immunoglobulin constant region. This sequence

CC represents the cDNA clone 29 encoding the human B lymphocyte antigen B7-2

CC (B7-2 clone 29) and is used as a first sequence in the construct of the

CC invention. The nucleic acid molecules are useful in various expression

CC vectors to direct synthesis of the corresponding proteins or peptides

CC in a variety of hosts, particularly eukaryotic cells, e.g. mammalian or

CC insect cell culture. The nucleic acids are also useful for enhancing

CC the immunogenicity of a mammalian cell, e.g. tumour cell (sarcoma) or

CC an antigen presenting cell (macrophage). The fusion proteins or peptides

GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 129.96 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-9

Perfect score: 987
Sequence: 1 atgtatctcagatgacatc.....acaacagctacacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published Applications_NA:*

- 1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
- 2: /cgn2_6/ptodata/2/pubpna/PCT_NEW_PUB.seq:*
- 3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
- 4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
- 5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
- 6: /cgn2_6/ptodata/2/pubpna/PCTUS_PUBCOMB.seq:*
- 7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
- 8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
- 9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
- 10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
- 11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
- 12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
- 13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
- 14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	61	6.2	1080	10 US-09-303-510-5	Sequence 5, Appl1
2	61	6.2	1080	10 US-09-303-040-5	Sequence 5, Appl1
3	33	3.3	551	9 US-09-796-692-7817	Sequence 7817, Ap
4	33	3.3	598	9 US-09-796-692-7754	Sequence 7754, Ap
5	33	3.3	751	9 US-10-105-200A-34	Sequence 34, Appl
6	33	3.3	831	10 US-09-845-899A-4	Sequence 4, Appl1
7	33	3.3	972	9 US-09-826-025-11	Sequence 11, Appl
8	33	3.3	1002	9 US-10-105-200A-33	Sequence 33, Appl
9	33	3.3	1056	10 US-09-756-983-17	Sequence 17, Appl
10	33	3.3	1112	9 US-09-441-711-25	Sequence 25, Appl
11	33	3.3	1120	8 US-08-592-711-3	Sequence 3, Appl1
12	33	3.3	1120	9 US-09-962-969-22	Sequence 22, Appl
13	33	3.3	1120	10 US-09-837-867A-22	Sequence 22, Appl
14	33	3.3	1161	10 US-09-962-969-24	Sequence 24, Appl
15	33	3.3	1161	10 US-09-837-867A-24	Sequence 24, Appl
16	33	3.3	1424	9 US-09-954-531-366	Sequence 366, Appl
17	33	3.3	1424	9 US-09-441-411-21	Sequence 21, Appl
18	33	3.3	1424	10 US-09-962-436-556	Sequence 556, Appl
19	25	2.5	25	10 US-09-303-510-34	Sequence 34, Appl

20	25	2.5	25	10 US-09-303-510-38	Sequence 38, Appl
21	25	2.5	25	10 US-09-303-040-34	Sequence 34, Appl
22	25	2.5	25	10 US-09-303-040-38	Sequence 38, Appl
23	24	2.4	54	10 US-09-147-142-23	Sequence 23, Appl
24	24	2.4	54	10 US-09-147-142-26	Sequence 26, Appl
25	21	2.1	210	9 US-09-962-969-31	Sequence 31, Appl
26	21	2.1	210	10 US-09-837-867A-31	Sequence 31, Appl
27	21	2.1	505	10 US-09-733-607-4	Sequence 4, Appl1
28	21	2.1	2577	10 US-09-529-063-71	Sequence 71, Appl
29	21	2.1	2880	10 US-09-764-898-81	Sequence 81, Appl
30	21	2.1	3013	10 US-09-764-853-260	Sequence 260, Appl
31	21	2.1	3088	10 US-09-529-063-72	Sequence 72, Appl
32	20	2.0	22	9 US-10-004-551-27	Sequence 27, Appl
33	20	2.0	195	9 US-10-115-615-20	Sequence 20, Appl
34	19	1.9	195	9 US-09-962-969-41	Sequence 41, Appl
35	19	1.9	4512	9 US-10-007-706-2	Sequence 2, Appl1
36	19	1.9	6220	9 US-10-007-706-3	Sequence 3, Appl1
37	19	1.9	6220	9 US-09-938-842A-2507	Sequence 2507, Ap
38	18	1.8	273	10 US-09-864-761-2757	Sequence 2757, Ap
39	18	1.8	471	10 US-09-783-590-329	Sequence 329, Appl
40	18	1.8	505	10 US-09-728-952-62	Sequence 62, Appl
41	18	1.8	700	10 US-09-770-445-722	Sequence 722, Appl
42	18	1.8	822	10 US-10-071-766-100	Sequence 14, Appl
43	18	1.8	855	9 US-09-728-952-63	Sequence 63, Appl
44	18	1.8	1454	9 US-09-957-708-14	Sequence 14, Appl
45	18	1.8	2105	9 US-10-071-766-100	Sequence 100, Appl
46	18	1.8	2508	9 US-09-938-842A-2036	Sequence 2036, Ap
47	18	1.8	3346	12 US-10-078-929-191	Sequence 191, Appl
48	18	1.8	15772	10 US-09-764-903-66	Sequence 66, Appl
49	18	1.8	45839	12 US-10-025-187-3	Sequence 3, Appl1
50	17	1.7	48	9 US-10-179-046-7	Sequence 7, Appl1
51	17	1.7	54	9 US-10-179-046-25	Sequence 25, Appl
52	17	1.7	56	9 US-10-179-046-30	Sequence 30, Appl
53	17	1.7	97	9 US-09-747-377-329	Sequence 329, Appl
54	17	1.7	133	10 US-09-878-574-7526	Sequence 7526, Ap
55	17	1.7	155	9 US-09-535-459-909	Sequence 103, Appl
56	17	1.7	155	9 US-09-535-459-1103	Sequence 1103, Ap
57	17	1.7	184	10 US-09-864-761-17534	Sequence 17534, A
58	17	1.7	214	9 US-09-535-459-1062	Sequence 1062, Ap
59	17	1.7	261	9 US-09-535-459-1119	Sequence 1119, Ap
60	17	1.7	261	9 US-09-535-459-1074	Sequence 1074, Ap
61	17	1.7	271	10 US-09-878-574-8204	Sequence 8204, Ap
62	17	1.7	275	10 US-09-878-574-12123	Sequence 12123, A
63	17	1.7	328	10 US-09-960-352-9363	Sequence 9363, Ap
64	17	1.7	354	10 US-09-864-761-750	Sequence 750, Appl
65	17	1.7	364	10 US-09-864-761-3828	Sequence 3828, Ap
66	17	1.7	366	9 US-10-015-219-792	Sequence 792, Appl
67	17	1.7	366	10 US-09-777-564-792	Sequence 792, Appl
68	17	1.7	390	9 US-10-179-046-13	Sequence 13, Appl
69	17	1.7	400	7 US-08-781-986A-3856	Sequence 3856, Ap
70	17	1.7	406	10 US-09-878-574-2459	Sequence 2459, Ap
71	17	1.7	408	9 US-09-918-995-37063	Sequence 37063, A
72	17	1.7	417	7 US-08-781-986A-4133	Sequence 4133, A
73	17	1.7	417	9 US-09-918-995-34307	Sequence 34307, A
74	17	1.7	470	9 US-09-918-995-28801	Sequence 28801, A
75	17	1.7	484	9 US-09-796-692-9286	Sequence 9286, Ap
76	17	1.7	538	9 US-09-918-995-22471	Sequence 22471, A
77	17	1.7	583	10 US-09-864-761-13635	Sequence 13635, A
78	17	1.7	948	9 US-09-966-436B-3	Sequence 3, Appl1
79	17	1.7	1151	9 US-09-962-969-20	Sequence 20, Appl
80	17	1.7	1151	10 US-09-837-867A-20	Sequence 20, Appl
81	17	1.7	1183	9 US-09-441-411-23	Sequence 23, Appl
82	17	1.7	1261	9 US-09-962-969-12	Sequence 12, Appl
83	17	1.7	1261	10 US-09-837-867A-12	Sequence 12, Appl
84	17	1.7	1269	9 US-10-166-048-61	Sequence 61, Appl
85	17	1.7	1716	9 US-10-179-046-1	Sequence 1, Appl1
86	17	1.7	1902	9 US-09-938-842A-1750	Sequence 1750, Ap
87	17	1.7	2000	9 US-09-938-842A-4872	Sequence 4872, Ap
88	17	1.7	2149	9 US-09-966-384-5	Sequence 5, Appl1
89	17	1.7	2404	9 US-10-102-806-257	Sequence 257, Appl
90	17	1.7	2538	9 US-10-027-806-61	Sequence 61, Appl
91	17	1.7	2538	9 US-10-034-623-61	Sequence 61, Appl
92	17	1.7	2538	9 US-10-027-801-61	Sequence 61, Appl

93 17 1.7 2780 9 US-09-968-436B-1 Sequence 1, Appl1
94 17 1.7 2812 12 US-10-002-600-103 Sequence 103, App
95 17 1.7 2892 9 US-09-938-842A-1073 Sequence 1073, Ap
96 17 1.7 3598 10 US-09-925-301-170 Sequence 170, App
97 17 1.7 7596 7 US-09-728-952-1 Sequence 1, Appl1
98 17 1.7 7972 7 US-08-781-986A-312 Sequence 312, App
99 17 1.7 8121 10 US-09-785-770A-14 Sequence 14, Appl
c 100 17 1.7 9827 9 US-10-114-170-66 Sequence 66, Appl

ALIGNMENTS

RESULT 1
US-09-303-510-5

; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Collisson, Ellen W.
; APPLICANT: Choi, Stephen M.
; APPLICANT: Choi, Insoo
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303,510A
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083,869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5

Query Match

Best Local Similarity 100.0%; Score 61; DB 10; Length 1080;
Pred. No. 4.7e-23;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAAGAGTCAAGCATATTTCACAGAGCTGAGAACTGCGATTTTACAA 130
Db 136 CTTCCATGAAGAGTCAAGCATATTTCACAGAGCTGAGAACTGCGATTTTACAA 195

QY 131 A 131

Db 196 A 196

RESULT 2

US-09-303-040-5

; Sequence 5, Application US/09303040
; Patent No. US20020051792A1

; GENERAL INFORMATION:

; APPLICANT: Winslow, Barbara J.

; APPLICANT: Cochran, Mark D.

; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding

; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or

; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof

; FILE REFERENCE: 54957-B

; CURRENT APPLICATION NUMBER: US/09/303,040

; CURRENT FILING DATE: 1999-04-30

; EARLIER APPLICATION NUMBER: 60/083,870

; EARLIER FILING DATE: 1998-05-01

; NUMBER OF SEQ ID NOS: 82

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 5

; LENGTH: 1080

; TYPE: DNA

; ORGANISM: feline CD86

; FEATURE:

; NAME/KEY: CDS

; LOCATION: (63)..(1052)

US-09-303-040-5

Query Match

Best Local Similarity 100.0%; Score 61; DB 10; Length 1080;
Pred. No. 4.7e-23;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTCCATGAAGAGTCAAGCATATTTCACAGAGCTGAGAACTGCGATTTTACAA 130
Db 136 CTTCCATGAAGAGTCAAGCATATTTCACAGAGCTGAGAACTGCGATTTTACAA 195

QY 131 A 131

Db 196 A 196

RESULT 3

US-09-796-692-7817

; Sequence 7817, Application US/09796692

; Publication No. US20020198362A1

; GENERAL INFORMATION:

; APPLICANT: Galger, Alexander

; APPLICANT: Algate, Paul A.

; APPLICANT: Mannion, Jane

; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE DETECTION, DIAGNOSIS AND THER

; FILE REFERENCE: 2077, 001200

; CURRENT APPLICATION NUMBER: US/09/796,692

; CURRENT FILING DATE: 2001-03-01

; PRIOR APPLICATION NUMBER: 60/186,126

; PRIOR FILING DATE: 2000-03-01

; PRIOR APPLICATION NUMBER: 60/190,479

; PRIOR FILING DATE: 2000-03-17

; PRIOR APPLICATION NUMBER: 60/200,545

; PRIOR FILING DATE: 2000-04-27

; PRIOR APPLICATION NUMBER: 60/200,303

; PRIOR FILING DATE: 2000-04-28

; PRIOR APPLICATION NUMBER: 60/200,779

; PRIOR FILING DATE: 2000-04-28

; PRIOR APPLICATION NUMBER: 60/200,999

; PRIOR FILING DATE: 2000-05-01

; PRIOR APPLICATION NUMBER: 60/202,084

; PRIOR FILING DATE: 2000-05-04

; PRIOR APPLICATION NUMBER: 60/206,201

; PRIOR FILING DATE: 2000-05-22

; PRIOR APPLICATION NUMBER: 60/218,950

; PRIOR FILING DATE: 2000-07-14

; PRIOR APPLICATION NUMBER: 60/222,903

; PRIOR FILING DATE: 2000-08-03

; PRIOR APPLICATION NUMBER: 60/223,416

; PRIOR FILING DATE: 2000-08-04

; PRIOR APPLICATION NUMBER: 60/223,378

; PRIOR FILING DATE: 2000-08-07

; NUMBER OF SEQ ID NOS: 9597

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 7817

; LENGTH: 551

; TYPE: DNA

; ORGANISM: Homo sapiens

; FEATURE:

; NAME/KEY: unsure

; LOCATION: (526)

; OTHER INFORMATION: n=A,T,C or G

; NAME/KEY: unsure

; LOCATION: (535)

; OTHER INFORMATION: n=A,T,C or G

US-09-796-692-7817

Query Match

Best Local Similarity 100.0%; Score 33; DB 9; Length 551;
Pred. No. 1.2e-07;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTAATCTGATGCAACCTGAATA 423

|||||

GenCore version 5.1.4-p5-4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 47.3311 Seconds
(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-9
Perfect score: 987
Sequence: 1 atgtatctcagatgcactat.....acaacagtactacacagttt 987

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 seqs, 15338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Issued_Patents_NA:*
1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/1/ina/Backfile1.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	33	3.3	751	4	US-09-039-982A-34
2	33	3.3	751	4	US-09-039-641-34
3	33	3.3	751	4	US-09-039-762A-34
4	33	3.3	751	4	US-09-042-492D-34
5	33	3.3	751	4	US-08-913-612A-34
6	33	3.3	972	4	US-08-848-760B-11
7	33	3.3	1002	4	US-09-039-982A-33
8	33	3.3	1002	4	US-09-039-641-33
9	33	3.3	1002	4	US-09-039-762A-33
10	33	3.3	1002	4	US-09-042-492D-33
11	33	3.3	1002	4	US-08-913-612A-33
12	33	3.3	1120	2	US-08-456-104-1
13	33	3.3	1120	2	US-08-101-624-1
14	33	3.3	1120	3	US-08-479-744A-1
15	33	3.3	1120	3	US-08-280-757B-1
16	33	3.3	1120	4	US-08-205-697A-22
17	33	3.3	1120	4	US-08-702-525-22
18	33	3.3	1120	4	US-08-403-253A-3
19	33	3.3	1120	5	PCT-US95-02576-22
20	33	3.3	1161	4	US-08-205-697A-24
21	33	3.3	1161	4	US-08-702-525-24
22	33	3.3	1161	5	PCT-US95-02576-24
23	33	3.3	1424	4	US-09-326-186B-226
24	33	3.3	1424	5	PCT-US94-09642-1
25	32	3.2	330	3	US-08-479-744A-44
26	32	3.2	330	3	US-08-280-757B-44
27	27	2.7	28	2	US-08-859-998-601

28	27	2.7	28	4	US-09-225-928-601	Sequence 601, App
29	24	2.4	62	3	US-08-479-744A-53	Sequence 53, App1
30	24	2.4	62	3	US-08-280-757B-53	Sequence 53, App1
31	24	2.4	63	3	US-08-479-744A-52	Sequence 52, App1
32	24	2.4	63	3	US-08-280-757B-52	Sequence 52, App1
33	24	2.4	306	3	US-08-479-744A-46	Sequence 46, App1
34	24	2.4	306	3	US-08-280-757B-46	Sequence 46, App1
35	21	2.1	210	4	US-08-205-697A-31	Sequence 31, App1
36	21	2.1	210	4	US-08-702-525-31	Sequence 31, App1
37	21	2.1	210	5	PCT-US95-02576-31	Sequence 31, App1
38	20	2.0	20	4	US-09-326-186B-186	Sequence 186, App
39	20	2.0	20	4	US-09-326-186B-188	Sequence 188, App
40	19	1.9	195	4	US-08-205-697A-41	Sequence 41, App1
41	19	1.9	195	4	US-08-702-525-41	Sequence 41, App1
42	19	1.9	195	5	PCT-US95-02576-41	Sequence 41, App1
43	18	1.8	18	2	US-08-585-684B-2598	Sequence 2598, App
44	18	1.8	18	4	US-09-038-073-2598	Sequence 2598, App
45	17	1.7	48	3	US-09-029-267-7	Sequence 7, App11
46	17	1.7	54	3	US-09-029-267-25	Sequence 25, App1
47	17	1.7	56	3	US-09-029-267-30	Sequence 30, App1
48	17	1.7	187	4	US-09-280-116-170	Sequence 170, App
49	17	1.7	219	6	5217896-6	Patent No. 5217896
50	17	1.7	390	3	US-09-029-267-13	Sequence 13, App1
51	17	1.7	1151	2	US-08-456-104-3	Sequence 3, App11
52	17	1.7	1151	2	US-08-205-697A-20	Sequence 20, App1
53	17	1.7	1151	4	US-08-702-525-20	Sequence 20, App1
54	17	1.7	1151	5	PCT-US95-02576-20	Sequence 20, App1
55	17	1.7	1163	3	US-08-479-744A-22	Sequence 22, App1
56	17	1.7	1163	3	US-08-280-757B-22	Sequence 22, App1
57	17	1.7	1261	4	US-08-205-697A-12	Sequence 12, App1
58	17	1.7	1261	4	US-08-702-525-12	Sequence 12, App1
59	17	1.7	1261	5	PCT-US95-02576-12	Sequence 12, App1
60	17	1.7	1428	4	US-09-134-001C-941	Sequence 941, App
61	17	1.7	1492	3	US-08-350-468-7	Sequence 7, App11
62	17	1.7	1716	3	US-09-029-267-1	Sequence 1, App11
63	17	1.7	2885	1	US-08-920-812-4	Sequence 4, App11
64	17	1.7	2885	1	US-08-920-827-4	Sequence 4, App11
65	17	1.7	2885	1	US-08-921-177-4	Sequence 4, App11
66	17	1.7	2885	1	US-08-362-577C-4	Sequence 4, App11
67	17	1.7	2885	2	US-08-920-828-4	Sequence 4, App11
68	17	1.7	9827	1	US-09-453-702B-66	Sequence 66, App1
69	17	1.7	19011	5	US-08-310-356-36	Sequence 36, App1
70	17	1.7	19557	1	PCT-US92-06300-1	Sequence 1, App11
71	16	1.6	18	2	US-08-585-684B-2586	Sequence 2586, App
72	16	1.6	18	4	US-09-038-073-2586	Sequence 54, App1
73	16	1.6	270	1	US-08-127-954-54	Sequence 54, App1
74	16	1.6	270	1	US-08-127-954-55	Sequence 55, App1
75	16	1.6	270	1	US-08-127-954-56	Sequence 56, App1
76	16	1.6	270	1	US-08-127-954-57	Sequence 57, App1
77	16	1.6	270	1	US-08-127-954-58	Sequence 58, App1
78	16	1.6	270	1	US-08-127-954-59	Sequence 59, App1
79	16	1.6	270	1	US-08-127-954-60	Sequence 60, App1
80	16	1.6	270	1	US-08-127-954-61	Sequence 61, App1
81	16	1.6	270	1	US-08-127-954-62	Sequence 62, App1
82	16	1.6	317	4	US-09-370-838-17	Sequence 17, App1
83	16	1.6	317	4	US-09-385-982-194	Sequence 194, App
84	16	1.6	471	4	US-09-221-017B-73	Sequence 73, App1
85	16	1.6	471	2	US-09-070-060-9	Sequence 9, App11
86	16	1.6	471	3	US-09-357-746-9	Sequence 9, App11
87	16	1.6	487	3	US-09-051-969A-2	Sequence 2, App11
88	16	1.6	490	4	US-09-221-017B-178	Sequence 178, App
89	16	1.6	571	4	US-09-404-811A-82	Sequence 82, App1
90	16	1.6	598	4	US-09-328-111-538	Sequence 538, App
91	16	1.6	910	4	US-08-456-200B-16	Sequence 16, App1
92	16	1.6	1255	4	US-09-149-476-15	Sequence 75, App1
93	16	1.6	1392	4	US-09-130-616-171	Sequence 171, App
94	16	1.6	1437	4	US-09-134-001C-2228	Sequence 2228, App
95	16	1.6	1443	2	US-08-454-557C-13	Sequence 13, App1
96	16	1.6	1443	2	US-08-340-426D-13	Sequence 13, App1
97	16	1.6	1443	2	US-08-450-673C-13	Sequence 13, App1
98	16	1.6	1443	5	PCT-US95-17111A-13	Sequence 13, App1
99	16	1.6	1523	1	US-09-130-616-172	Sequence 172, App
100	16	1.6	1563	4	US-09-292-858B-11	Sequence 11, App1

ALIGNMENTS

```
RESULT 1
US-09-039-982A-34
; Sequence 34, Application US/0903982A
; Patent No. 6225042
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierl, Ltd.
; STREET: 20 No. 6225042th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,982A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1189
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; US-09-039-982A-34

Query Match          3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 391 TCAGTCTGCTAAGTCAAGTCAACCTGAATA 423
Db 397 TCAGTCTGCTAAGTCAAGTCAACCTGAATA 429

RESULT 2
US-09-039-641-34
; Sequence 34, Application US/09039641
; Patent No. 6251627
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR
; ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 45
```

```
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierl, Ltd.
; STREET: 20 No. 6251627th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,641
; FILING DATE: 8-MAR-1995
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1189
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; US-09-039-641-34

Query Match          3.3%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 391 TCAGTCTGCTAAGTCAAGTCAACCTGAATA 423
Db 397 TCAGTCTGCTAAGTCAAGTCAACCTGAATA 429

RESULT 3
US-09-039-762A-34
; Sequence 34, Application US/09039762A
; Patent No. 6255073
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS
; FOR ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierl, Ltd.
; STREET: 20 No. 6255073th Wacker Drive, 36th floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,762A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
```



```

80      21      2.1      468      10      AM173172      xj84c05.x
81      21      2.1      470      14      B0029054      UT-H-DT0-
82      21      2.1      473      9      A1088713
83      21      2.1      473      12      BF222484
84      21      2.1      474      9      A1264250
85      21      2.1      474      9      A1421543
86      21      2.1      474      9      A1804063
87      21      2.1      478      10      AM572903
88      21      2.1      480      9      A1750143
89      21      2.1      481      9      A1769012
90      21      2.1      481      12      BG218952
91      21      2.1      489      9      A1292134
92      21      2.1      489      9      A1889922
93      21      2.1      491      9      A1334030
94      21      2.1      496      10      AM516826
95      21      2.1      499      9      AM051810
96      21      2.1      505      9      A1769172
97      21      2.1      505      12      BF439216
98      21      2.1      507      10      AM991229
99      21      2.1      513      12      BF197202
100     21      2.1      520      13      BM504702

```

ALIGNMENTS

```

RESULT 1
AA056906      448 bp      mRNA      linear      EST 18-SEP-1996
LOCUS
DEFINITION
EST224R Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 reverse similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION
AA056906
VERSION
AA056906.1 GI:1549546
KEYWORDS
EST.
SOURCE
pig.
ORGANISM
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE
1 (bases 1 to 448)
Tuggle,C.K., Wahls,S. and Schmitz,C.
Expressed Sequence Tags from Pig Spleen
Unpublished (1996)
JOURNAL
Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGGCGAGCAGCTCCTG
BACKWARD: GACCGCGCTCAGCT
Insert Length: 950 Std Error: 50.00
Seq primer: GACCGCGCTCAGCT

```

FEATURES

```

source
Location/Qualifiers
1..448
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue-type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
BASE COUNT      126 a      116 c      89 g      116 t      1 others
ORIGIN
Query Match      4.5%; Score 44; DB 9; Length 448;
Best Local Similarity 100.0%; Pred. No. 5.4e-13;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

381 TTCGACCTATCAGTGTGCTTACTTACGTCAGTCAACCTGAATATA 424

```

|||||
DB      346      TTCGACCTATCAGTGTGCTTACTTACGTCAGTCAACCTGAATATA 389

```

```

RESULT 2
AA056905/c      512 bp      mRNA      linear      EST 18-SEP-1996
LOCUS
DEFINITION
EST224F Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 forward similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION
AA056905.1 GI:1549545
VERSION
AA056905.1
KEYWORDS
EST.
SOURCE
pig.
ORGANISM
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE
1 (bases 1 to 512)
Tuggle,C.K., Wahls,S. and Schmitz,C.
Expressed Sequence Tags from Pig Spleen
Unpublished (1996)
JOURNAL
Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGGCGAGCAGCTCCTG
BACKWARD: GACCGCGCTCAGCT
Insert Length: 950 Std Error: 50.00
Seq primer: TGGCGAGCAGCTCCTG

```

FEATURES

```

source
Location/Qualifiers
1..512
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue-type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
BASE COUNT      125 a      106 c      114 g      163 t      4 others
ORIGIN
Query Match      4.2%; Score 41; DB 9; Length 512;
Best Local Similarity 100.0%; Pred. No. 2.7e-11;
Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      800      TAACACTAAGAAAGAAAGAAAGACGCTGGCCCTCT 840
DB      194      TAACACTAAGAAAGAAAGAAAGACGCTGGCCCTCT 154

```

FEATURES

```

B1824940      655 bp      mRNA      linear      EST 04-OCT-2001
LOCUS
DEFINITION
603032554F1 NIH_MGC_115 Homo sapiens cDNA clone IMAGE:5173789 5',
mRNA sequence.
ACCESSION
B1824940
VERSION
B1824940.1 GI:15936490
KEYWORDS
EST.
SOURCE
human.
ORGANISM
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.

```

```

REFERENCE
1 (bases 1 to 655)
NIH-MGC http://mgi.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov

```

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2436.71 Seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-19

Sequence: 840
1 atgtatctcagatgcactat.....acaacagctactacacagttt 840

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: listing first 100 summaries

Database :

GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pln:*
35: em_htg_rod:*
36: em_htg_man:*
37: em_htg_vtl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	840	100.0	1795	4	AF106827
2	704	83.8	1897	4	AF106826
3	61	7.3	1138	4	AF157827
4	61	7.3	1270	4	AB030652
5	61	7.3	2830	4	AY007704
6	33	3.9	738	6	AX002781
7	33	3.9	738	6	AX149548
8	33	3.9	751	6	AR147737
9	33	3.9	751	6	AR159759
10	33	3.9	751	6	AR160451
11	33	3.9	751	6	AR202407
12	33	3.9	972	6	AX027005
13	33	3.9	1002	6	AR147736
14	33	3.9	1002	6	AR159758
15	33	3.9	1002	6	AR160450
16	33	3.9	1002	6	AR202406
17	33	3.9	1044	9	AF344851
18	33	3.9	1048	9	AF344857
19	33	3.9	1062	9	AF344840
20	33	3.9	1062	9	AF344861
21	33	3.9	1112	9	HMB72A
22	33	3.9	1120	6	AR030780
23	33	3.9	1120	6	AR112747
24	33	3.9	1120	6	AR146413
25	33	3.9	1120	6	AR196804
26	33	3.9	1120	6	AX047043
27	33	3.9	1161	6	AR146414
28	33	3.9	1424	6	AR178980
29	33	3.9	1424	6	AX30924
30	33	3.9	1424	6	AX332506
31	33	3.9	1424	6	HSU04343
32	33	3.9	2205	6	AX188198
33	33	3.8	330	6	AR112783
34	32	3.8	741	9	HSB7284
35	32	3.8	901	9	AF344836
36	32	3.8	164161	9	AC068630
37	30	3.6	994	4	PICD86G
38	30	3.6	994	6	AX027016
39	27	3.2	28	6	AR090481
40	27	3.2	28	6	AR197516
41	24	2.9	62	6	AR112790
42	24	2.9	63	6	AR112789
43	24	2.9	306	6	AR112784
44	24	2.9	737	7	HSB7285
45	23	2.7	76884	2	AC103292
46	22	2.6	924	4	BR291475
47	22	2.6	44971	9	AC105251
48	21	2.5	133	4	AF222915
49	21	2.5	175	9	HSU38432
50	21	2.5	210	6	AR146418
51	21	2.5	449	10	RNU31330
52	21	2.5	630	9	HSB7288
53	21	2.5	942	6	E14273
54	21	2.5	942	10	D50558
55	21	2.5	2540	9	AK098323
56	21	2.5	2949	9	AY028435
57	21	2.5	2954	9	AK001486
58	21	2.5	3055	9	BC032109
59	21	2.5	3078	9	AF166350
60	21	2.5	3336	6	AX084233
61	21	2.5	3573	9	AB056772
62	21	2.5	93034	9	AP004582
63	21	2.5	121287	9	AC010332
64	21	2.5	155723	9	AP002847
65	21	2.5	163198	2	AC095367

Pred. No. is the number of results predicted by chance to have a

ALIGNMENTS

[illegible]

QY 781 GAAGCCAGTGTGTTAATTCAGACAGCTTCAGGCGACAAAGTACTACAGATT 840
 Db 787 GAAGCCAGTGTGTTAATTCAGACAGCTTCAGGCGACAAAGTACTACAGATT 846

RESULT 2
 AF106826 1897 bp mRNA linear MAM 14-DEC-1999
 LOCUS Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
 DEFINITION AF106826
 ACCESSION AF106826.1 GI:6572516
 VERSION
 KEYWORDS
 SOURCE
 ORGANISM
 Canis familiaris.
 Canis familiaris.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 REFERENCE
 1 (bases 1 to 1897)
 Yang,S. and Sim,G.-K.
 TITLE New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
 JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
 MEDLINE 20093996
 PUBMED 10630300
 REFERENCE 2 (bases 1 to 1897)
 Yang,S. and Sim,G.-K.
 AUTHORS Direct Submission
 TITLE Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825
 JOURNAL Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
 source
 1..1897
 /organism="Canis familiaris"
 /db_xref="taxon:9615"
 /cell_type="peripheral blood mononuclear cells"
 1..1897
 /gene="CD86"
 1..5
 /gene="CD86"
 6..995
 /gene="CD86"
 /function="counter-receptor for CD28 and CD152 (CTLA4)"
 /codon_start=1
 /product="B7-2 protein"
 /protein_id="AF17297.1"
 /db_xref="GI:6572517"
 /translation="MYRCMELNLIIFVMTLLLYGAASMSKSOAYFNKGTGELPCHEPTN
 SONISLDELVWFODDKLYVLEIFRKENPQNVHLLKYGKRTSFDKDMNTRLRHNIQ
 KDKGLVQCPEVHHKPGKGLVPMHOMNSDLYLAFSPELMTVSNRTEGNTLNTCS
 IGGYPERKEMFLVKTENSTKTDYTWKRSQNNVTBLVNSISLFSVEASVSTFC
 VLQLESMKLPESLYNIDAHKRPDGDHILMIAILVMLVLCGVNFFLLRRKKRQ
 PGSHCEETNKVREKSEQTKERVRYHETERSDEACVNIKSTASGDNSTQF"
 996..1897
 3'UTR
 /gene="CD86"
 BASE COUNT 585 a 400 c 383 g 529 t
 ORIGIN

Query Match 83.8%; Score 704; DB 4; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCAGATGCACCTANGAAGTGAATATACATCTCTTGTGATGACCTCTGCTC 60
 Db 6 ATGTATCTCAGATGCACCTANGAAGTGAATATACATCTCTTGTGATGACCTCTGCTC 65

QY 61 TATGCTGCTGCTTCATGAGAGTCAAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
 Db 66 TATGCTGCTGCTTCATGAGAGTCAAGCATATTTCAACAAGACTGAGAACTGCCATGC 125

QY 121 CATTTTAAATTTCTCAAAAATATAGACCTGATGAGTTGAGTGTGTTGGCAGACGAC 180
 Db 126 CATTTTAAATTTCTCAAAAATATAGACCTGATGAGTTGAGTGTGTTGGCAGACGAC 185

QY 181 GATAAGCTGTTCTGTACGAGCTATACAGAGCAAAAGAACCCCTCAAAATGTTCAATGC 240

Db 186 GATAAGCTGTTCTGTACGAGCTATACAGAGCAAAAGAACCCCTCAAAATGTTCAATGC 245
 QY 241 AAGTATAGGGCCGACAAAGCTTTGACAAAGCAATTTGGACCTGAGACTCCATATATT 300
 Db 246 AAGTATAGGGCCGACAAAGCTTTGACAAAGCAATTTGGACCTGAGACTCCATATATT 305
 QY 301 CAGATCAAGGACAAAGGCTTGTATCAATGTTTCGTTTCATTAAGAGGCCAAAGACTC 360
 Db 306 CAGATCAAGGACAAAGGCTTGTATCAATGTTTCGTTTCATTAAGAGGCCAAAGACTC 365
 QY 361 GTTCCCATGACACAGATGATTTCTGACCTATGCTGCTTGAATCTGACGTAACCTGAA 420
 Db 366 GTTCCCATGACACAGATGATTTCTGACCTATGCTGCTTGAATCTGACGTAACCTGAA 425
 QY 421 ATTAATGCTACTCTTAATTAAGACAAATTTGTCATCAATTAATTAATTAATTAATTA 480
 Db 426 ATTAATGCTACTCTTAATTAAGACAAATTTGTCATCAATTAATTAATTAATTAATTA 485
 QY 481 ATTAAGCTTACCAGAACCCAGAGATGATTTTGGTAAACCGAGATTTCAAGT 540
 Db 486 ATTAAGCTTACCAGAACCCAGAGATGATTTTGGTAAACCGAGATTTCAAGT 545
 QY 541 ACTAAGTATGATCTGTCTATGAAGAATCTCAAAATATATGTCACGAACCTACACGTT 600
 Db 546 ACTAAGTATGATCTGTCTATGAAGAATCTCAAAATATATGTCACGAACCTACACGTT 605
 QY 601 TCTATGAGCTTGCCCTTCAGTCCCTGAGAGCAATGAGATGATGCTGCTGCTGCTG 660
 Db 606 TCTATGAGCTTGCCCTTCAGTCCCTGAGAGCAATGAGATGATGCTGCTGCTGCTG 665

QY 661 CAACCTGAGCTCAATGAAGCTTCCCTCCCTACCTTAATATATAGA 704
 Db 666 CAACCTGAGCTCAATGAAGCTTCCCTCCCTACCTTAATATATAGA 709

RESULT 3
 AF157827 1138 bp mRNA linear MAM 08-MAY-2000
 LOCUS Fells catus CD86 antigen (CD86) mRNA, complete cds.
 DEFINITION AF157827
 ACCESSION AF157827
 VERSION AF157827.1 GI:5381423
 KEYWORDS
 SOURCE
 ORGANISM
 Fells catus.
 Fells catus.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.
 REFERENCE
 1 (bases 1 to 1138)
 Choi,I.-S., Hash,S.M., Winslow,B.J. and Collisson,E.W.
 TITLE Sequence analyses of feline B7 costimulatory molecules
 JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
 MEDLINE 20180222
 PUBMED 10713336

REFERENCE 2 (bases 1 to 1138)
 Choi,I.-S., Hash,S., Winslow,B.J. and Collisson,E.W.
 AUTHORS Direct Submission
 TITLE Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M
 JOURNAL University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA

FEATURES
 source
 1..1138
 /organism="Fells catus"
 /db_xref="taxon:9685"
 1..1138
 /gene="CD86"
 63..1052
 /gene="CD86"
 /note="B7-2 antigen"
 /codon_start=1
 /product="CD86 antigen"
 /protein_id="AAD42974.1"
 /db_xref="GI:5381424"
 /translation="WGICDSTWGISHTLLVALLISVSKSKSOAYFNKGTGELPCHEPT
 NSONTSLDELVWFODDKLYVLEIFRKENPQNVHLLKYGKRTSFDKDMNTRLRHNIQ

BASE COUNT 358 a 245 c 246 g 289 t
 ORIGIN
 IKDKGYTHCFIHYGKGLVPMHOMSDLSVLANFSOPETITVTSNRTENSIIINLTCS
 SIOGYPERPEKEMFQOLNTENSTTKYDTVMKKSQNNVTLLVNSISLSPFSVEAHNVSVF
 CALKLETLLEMLISLPENIDAOPKDKDEQGHFLIAVLVMEVFCGMSVSKTLRKRR
 KKQGPSPHECETIKRERKESKOTNERVYHYHPRSDAQCIVNLTAKSGDKNQ"

Query Match 7.3%; Score 61; DB 4; Length 1138;
 Best Local Similarity 100.0%; Pred. No. 8e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 130
 DB 136 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 195

QY 131 A 131
 DB 196 A 196

RESULT 4
 AB030652
 LOCUS 1270 bp mRNA linear MAM 01-MAR-2001
 DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
 complete cds.

ACCESSION AB030652
 VERSION AB030652.1 GI:9796387
 KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
 SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.
 ORGANISM Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE 1 (sites)
 AUTHORS Nishimura,Y., Shimojima,M., Miyazawa,T., Sato,E., Nakamura,K.,
 Izumiya,Y., Ikeda,Y., Mikami,T. and Takahashi,E.
 TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
 activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
 interact with human CTLA4-Ig
 JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
 MEDLINE 20485322
 REFERENCE 2 (bases 1 to 1270)
 AUTHORS Nishimura,Y.
 TITLE Direct Submission
 JOURNAL Submitted (31-JUL-1999) Yoshino Nishimura, Faculty of Agriculture,
 The University of Tokyo, Department of Veterinary Microbiology;
 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
 (E-mail:yoshino@cirocus.ocn.ne.jp, Tel:+81-3-5841-5396,
 Fax:+81-3-5841-8184)
 COMMENT Sequence updated (08-Jun-2000).

FEATURES
 source
 1..1270
 /organism="Felis catus"
 /db_xref="taxon:9685"
 /cell_type="peripheral blood mononuclear cell"
 1..1270
 /gene="CD86"
 240..1238
 /gene="CD86"
 /codon_start=1
 /product="B-lymphocyte activation antigen B7-2 (CD86)"
 /db_xref="GI:9796387"

gene
 CDS
 240..1238
 /translation="MGICDSTWGLSHTLLVMALLISGVSSKMSQAYFNKTELPCHEFT
 NSQNTSLDELVEFWDDKLVLYELFERKENDPQNVHLKRTSPDKDMWTLRLHNVQ
 IKDKGYTHCFIHYGKGLVPMHOMSDLSVLANFSOPETITVTSNRTENSIIINLTCS
 SIOGYPERPEKEMFQOLNTENSTTKYDTVMKKSQNNVTLLVNSISLSPFSVEAHNVSVF
 CALKLETLLEMLISLPENIDAOPKDKDEQGHFLIAVLVMEVFCGMSVSKTLRKRR
 KKQGPSPHECETIKRERKESKOTNERVYHYHPRSDAQCIVNLTAKSGDKSTTHP"

polyA_signal

BASE COUNT 378 a 281 c 260 g 351 t
 ORIGIN

Query Match 7.3%; Score 61; DB 4; Length 1270;
 Best Local Similarity 100.0%; Pred. No. 7.9e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 130
 DB 313 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 372

QY 131 A 131
 DB 373 A 373

RESULT 5
 AY007704
 LOCUS 2830 bp mRNA linear MAM 03-OCT-2001
 DEFINITION Felis catus CD86 (CD86) mRNA, complete cds.
 ACCESSION AY007704
 VERSION AY007704.1 GI:15418725
 KEYWORDS
 SOURCE Felis catus.
 ORGANISM Felis catus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE 1 (bases 1 to 2830)
 AUTHORS Yang,S., Sellins,K.S., Powell,T., Stoneman,B. and Sim,G.K.
 TITLE Novel transcripts encoding secreted forms of feline CD80 and CD86
 costimulatory molecules
 JOURNAL Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
 MEDLINE 21390213
 PUBMED 11498243
 REFERENCE 2 (bases 1 to 2830)
 AUTHORS Yang,S.
 TITLE Direct Submission
 JOURNAL Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
 Prospect Parkway, Ft Collins, CO 80525, USA

FEATURES
 source
 1..2830
 /organism="Felis catus"
 /db_xref="taxon:9685"
 1..2830
 /gene="CD86"
 179..1177
 /gene="CD86"
 /note="CD28/CTLA4 counter receptor; B7-2 protein"
 /codon_start=1
 /product="CD86"
 /protein_id="F15418726"
 /db_xref="GI:15418726"

BASE COUNT 877 a 570 c 586 g 797 t
 ORIGIN
 Query Match 7.3%; Score 61; DB 4; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 7.4e-23;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 71 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 130
 DB 252 CTTTCATGAGAGCTATTTCAACAGAGCTGAGAGCTGCCATGCTTTTACAA 311

QY 131 A 131
 DB 312 A 312

RESULT 6
 AK002781

LOCUS AX002781 738 bp DNA linear PAT 21-AUG-2000
 DEFINITION Sequence 4 from Patent WO9855607.
 ACCESSION AX002781
 VERSION AX002781.1 GI:9885109
 KEYWORDS
 SOURCE synthetic construct.
 ORGANISM synthetic construct.
 REFERENCE 1 (bases 1 to 738)
 AUTHORS Bebbington,C.R. and Carroll,M.W.
 TITLE Patent: WO 9855607-A 4 10-DEC-1998;
 JOURNAL BEBBINGTON CHRISTOPHER ROBERT (GB); CARROLL MILES WILLIAM (GB)
 FEATURES
 source 1..738
 /organism="synthetic construct"
 /db_xref="taxon:32630"
 1..>738
 /note="unnamed protein product"
 /codon_start=1
 /transl_table=11
 /protein_id="CAC04193.1"
 /db_xref="GI:9885110"
 /translation="MGLSNILFVMAFLSGAAPKIQAYFNTADLPQFANSQNSL
 SELVFWQDQENLVINEVYLGEKEDSVHSGKMGRTSPDSQMTLRILNLQIKDGLY
 OCTIHHKPTGMIRIHONMSLSVLANSQPEIPIISNTENVYINLCSSIHGYPEP
 KMSVLLRTKNTIEYDGMOKSDQNVTELYVSLVSFPDVTSMNTIFCIETDK
 TRLSSPFIELEDDPPPDHIRGGGGS"
 BASE COUNT 215 a 168 c 148 g 207 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 738;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGGAATA 423
 |||||||||||||||||||||||||||||||||||
 Db 373 TCAGTCTGCTTAACCTCACTCACTGGAATA 405

RESULT 7
 AX149548 738 bp DNA linear PAT 08-JUN-2001
 LOCUS AX149548
 DEFINITION Sequence 9 from Patent WO0136486.
 ACCESSION AX149548
 VERSION AX149548.1 GI:14347987
 KEYWORDS
 SOURCE synthetic construct.
 ORGANISM synthetic construct.
 REFERENCE 1 (bases 1 to 738)
 AUTHORS Kingsman,A.O., Kingsman,S.M., Bebbington,C.R., Carroll,M.W.,
 Billard,F.M. and Myers,K.A.
 TITLE Antibodies
 JOURNAL Patent: WO 0136486-A 9 25-MAY-2001;
 Oxford Biomedica (UK) Limited (GB)
 FEATURES
 source 1..738
 /organism="synthetic construct"
 /db_xref="taxon:32630"
 /note="B7.2.5T4.1"
 BASE COUNT 215 a 168 c 148 g 207 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 738;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGGAATA 423
 |||||||||||||||||||||||||||||||||||
 Db 373 TCAGTCTGCTTAACCTCACTCACTGGAATA 405

RESULT 8
 ARI47737 751 bp DNA linear PAT 08-AUG-2001
 LOCUS ARI47737
 DEFINITION Sequence 34 from patent US 6225042.
 ACCESSION ARI47737
 VERSION ARI47737.1 GI:15111827
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6225042-A 34 01-MAY-2001;
 FEATURES
 source 1..751
 /organism="unknown"
 BASE COUNT 218 a 174 c 149 g 210 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGGAATA 423
 |||||||||||||||||||||||||||||||||||
 Db 397 TCAGTCTGCTTAACCTCACTCACTGGAATA 429

RESULT 9
 ARI59759 751 bp DNA linear PAT 17-OCT-2001
 LOCUS ARI59759
 DEFINITION Sequence 34 from patent US 6251627.
 ACCESSION ARI59759
 VERSION ARI59759.1 GI:16222532
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6251627-A 34 26-JUN-2001;
 FEATURES
 source 1..751
 /organism="unknown"
 BASE COUNT 218 a 174 c 149 g 210 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
 Best Local Similarity 100.0%; Pred. No. 7.9e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTGCTTAACCTCACTCACTGGAATA 423
 |||||||||||||||||||||||||||||||||||
 Db 397 TCAGTCTGCTTAACCTCACTCACTGGAATA 429

RESULT 10
 ARI60451 751 bp DNA linear PAT 17-OCT-2001
 LOCUS ARI60451
 DEFINITION Sequence 34 from patent US 6255073.
 ACCESSION ARI60451
 VERSION ARI60451.1 GI:16224368
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 751)
 AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 6255073-A 34 03-JUL-2001;
 FEATURES
 Location/Qualifiers

source 1. .751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCACTGAATA 423
|||||
Db 397 TCAGTCTTGTCTAAGTCACTGAATA 429

RESULT 11
AR202407 751 bp DNA linear PAT 20-APR-2002
LOCUS
DEFINITION Sequence 34 from patent US 6362001.
ACCESSION AR202407
VERSION AR202407.1 GI:20256946
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 751)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Method for producing a synthetic antigen presenting transformed Drosophila cell
JOURNAL Patent: US 6362001-A 34 26-MAR-2002;
FEATURES
LOCATION/Qualifiers
source 1. .751
/organism="unknown"
BASE COUNT 218 a 174 c 149 g 210 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCACTGAATA 423
|||||
Db 397 TCAGTCTTGTCTAAGTCACTGAATA 429

RESULT 12
AX027005 972 bp DNA linear PAT 16-SEP-2000
LOCUS
DEFINITION Sequence 2 from Patent W00037102.
ACCESSION AX027005
VERSION AX027005.1 GI:10188040
KEYWORDS
SOURCE human.
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
REFERENCE 1 (bases 1 to 972)
AUTHORS Rogers,N.J., Dorling,A. and Lechler,R.I.
TITLE Immunosuppression
JOURNAL Patent: WO 0037102-A 2 29-JUN-2000;
ROGERS NICHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;
LECHLER ROBERT IAN (GB)
FEATURES
LOCATION/Qualifiers
source 1. .972
/organism="Homo sapiens"
/db_xref="taxon:9606"
BASE COUNT 304 a 204 c 194 g 270 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 972;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCACTGAATA 423

Db 373 TCAGTCTTGTCTAAGTCACTGAATA 405
|||||

RESULT 13
AR147736 1002 bp DNA linear PAT 08-AUG-2001
LOCUS
DEFINITION Sequence 33 from patent US 6225042.
ACCESSION AR147736
VERSION AR147736.1 GI:15111826
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 1002)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6225042-A 33 01-MAY-2001;
FEATURES
LOCATION/Qualifiers
source 1. .1002
/organism="unknown"
BASE COUNT 309 a 215 c 203 g 275 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCACTGAATA 423
|||||
Db 397 TCAGTCTTGTCTAAGTCACTGAATA 429

RESULT 14
AR159758 1002 bp DNA linear PAT 17-OCT-2001
LOCUS
DEFINITION Sequence 33 from patent US 6251627.
ACCESSION AR159758
VERSION AR159758.1 GI:16222530
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 1002)
AUTHORS Cai,Z., Sprent,J., Brunmark,A., Jackson,M. and Peterson,P.A.
TITLE Antigen presenting system and methods for activation of T-cells
JOURNAL Patent: US 6251627-A 33 26-JUN-2001;
FEATURES
LOCATION/Qualifiers
source 1. .1002
/organism="unknown"
BASE COUNT 309 a 215 c 203 g 275 t
ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCACTGAATA 423
|||||
Db 397 TCAGTCTTGTCTAAGTCACTGAATA 429

RESULT 15
AR160450 1002 bp DNA linear PAT 17-OCT-2001
LOCUS
DEFINITION Sequence 33 from patent US 6255073.
ACCESSION AR160450
VERSION AR160450.1 GI:16224366
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 1002)

AUTHORS Cai, Z., Sprent, J., Brunmark, A., Jackson, M. and Peterson, P.A.
 TITLE Antigen presenting system and methods for activation of T-cells
 JOURNAL Patent: US 625073-A 33 03-JUL-2001;
 FEATURES Location/Qualifiers
 source 1..1002
 /organism="unknown"
 BASE COUNT 309 a 215 c 203 g 275 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 397 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 429

RESULT 16
 AR202406 1002 bp DNA linear PAT 20-APR-2002
 LOCUS Sequence 33 from patent US 6362001.
 DEFINITION AR202406
 ACCESSION AR202406
 VERSION AR202406.1 GI:20256945
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 REFERENCE 1 (bases 1 to 1002)
 AUTHORS Cai, Z., Sprent, J., Brunmark, A., Jackson, M. and Peterson, P.A.
 TITLE Method for producing a synthetic antigen presenting transformed
 JOURNAL Drosophila cell
 FEATURES Patent: US 6362001-A 33 26-MAR-2002;
 source Location/Qualifiers
 1..1002
 /organism="unknown"
 BASE COUNT 309 a 215 c 203 g 275 t
 ORIGIN

Query Match 3.9%; Score 33; DB 6; Length 1002;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 397 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 429

RESULT 17
 AF344851 1044 bp mRNA linear PRI 06-SEP-2001
 LOCUS AF344851
 DEFINITION Macaca nemestrina CD86 protein precursor, mRNA, complete cds.
 ACCESSION AF344851
 VERSION AF344851.1 GI:13655490
 KEYWORDS
 SOURCE Macaca nemestrina.
 ORGANISM Macaca nemestrina
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 Cercopithecinae; Macaca.
 REFERENCE 1 (bases 1 to 1044)
 AUTHORS Villinger, F., Bostik, P., Mayne, A., King, C.L., Genain, C.P.,
 Weiss, W.R. and Ansari, A.A.
 TITLE Cloning, sequencing, and homology analysis of nonhuman primate
 JOURNAL Fas/Fas-ligand and co-stimulatory molecules of nonhuman primate
 MEDLINE Immunogenetics 53 (4), 315-328 (2001)
 PUBMED 11491535
 REFERENCE 2 (bases 1 to 1044)
 AUTHORS Villinger, F.
 TITLE Direct Submission
 JOURNAL Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
 University School of Medicine, Winship Cancer Institute, 1365B

Clifton Rd, Atlanta, GA 30322, USA
 FEATURES Location/Qualifiers
 source 1..1044
 /organism="Macaca nemestrina"
 /db_xref="taxon:9545"
 6..977
 /note="B7.2"
 /codon_start=1
 /product="CD86 protein precursor"
 /protein_id="AAK37611.1"
 /db_xref="GI:13655491"
 /translation="MGLSNILFVMAFLGSAAPLKIQAYFNETADLPCCPANSQNSRL
 SELVFWQNOENLVNLEVYLGKKEFDSVHSKYGRTSPDESWTLRLNIOIKGILY
 OCIIHKRPRTGIRIHOMNSLSVLNFSQPEIYPSINTEYNNINLTCSIHGYDEP
 EKMSVLLRPTKNSITLEDYGVWQKSDNNTLYDYSISISVSFPVTSNMTITFCVLETDK
 TOLLSPEFSEILEDPPDPDHITPMTAVLPSVAVICVMAFCILIMKKKKKQPRNSYKC
 GTNTEREESQTKRKRIKINVERPSDAQCVFSLKTPSCDKSDTRF"
 6..56
 sig-peptide
 BASE COUNT 320 a 230 c 208 g 286 t
 ORIGIN

Query Match 3.9%; Score 33; DB 9; Length 1044;
 Best Local Similarity 100.0%; Pred. No. 7.7e-07;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 423
 |||||||
 Db 378 TCAGTCTTGCTTAAGTCACTCAACCTGAATA 410

RESULT 18
 AF344857 1048 bp mRNA linear PRI 06-SEP-2001
 LOCUS AF344857
 DEFINITION Macaca mulatta CD86 protein precursor, mRNA, complete cds.
 ACCESSION AF344857
 VERSION AF344857.1 GI:13650011
 KEYWORDS
 SOURCE Macaca mulatta.
 ORGANISM Macaca mulatta
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 Cercopithecinae; Macaca.
 REFERENCE 1 (bases 1 to 1048)
 AUTHORS Villinger, F., Bostik, P., Mayne, A., King, C.L., Genain, C.P.,
 Weiss, W.R. and Ansari, A.A.
 TITLE Cloning, sequencing, and homology analysis of nonhuman primate
 JOURNAL Fas/Fas-ligand and co-stimulatory molecules of nonhuman primate
 MEDLINE Immunogenetics 53 (4), 315-328 (2001)
 PUBMED 11491535
 REFERENCE 2 (bases 1 to 1048)
 AUTHORS Villinger, F.
 TITLE Direct Submission
 JOURNAL Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
 University School of Medicine, Winship Cancer Institute, 1365B
 Clifton Rd, Atlanta, GA 30322, USA
 FEATURES Location/Qualifiers
 source 1..1048
 /organism="Macaca mulatta"
 /db_xref="taxon:9544"
 19..990
 /note="B7.2"
 /codon_start=1
 /product="CD86 protein precursor"
 /protein_id="AAK37540.1"
 /db_xref="GI:13650012"
 /translation="MGLSNILFVMAFLGSAAPLKIQAYFNETADLPCCPANSQNSRL
 SELVFWQNOENLVNLEVYLGKKEFDSVHSKYGRTSPDESWTLRLNIOIKGILY
 OCIIHKRPRTGIRIHOMNSLSVLNFSQPEIYPSINTEYNNINLTCSIHGYDEP
 EKMSVLLRPTKNSITLEDYGVWQKSDNNTLYDYSISISVSFPVTSNMTITFCVLETDK
 TOLLSPEFSEILEDPPDPDHITPMTAVLPSVAVICVMAFCILIMKKKKKQPRNSYKC
 GTNTEREESQTKRKRIKINVERPSDAQCVFSLKTPSCDKSDTRF"
 19..69
 sig-peptide

```

BASE COUNT      324 a      230 c      205 g      289 t
ORIGIN
Query Match      3.9%; Score 33; DB 9; Length 1048;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches .0; Indels 0; Gaps 0;

QY      391 TCAGTGCTGCTACTGACGTCGACCTGAATA 423
Db      391 TCAGTGCTGCTACTGACGTCGACCTGAATA 423

RESULT 19
AF344840      1062 bp      mRNA      linear      PRI 06-SEP-2001
LOCUS
DEFINITION      Cercopithecus torquatus atys CD86 protein precursor, mRNA, complete
ACCESSION      AF344840
VERSION      AF344840.1 GI:13650000
KEYWORDS
SOURCE      Cercopithecus torquatus atys.
ORGANISM      Cercopithecus torquatus atys.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
Cercopithecinae; Cercopithecus.
REFERENCE
AUTHORS      Villinger, F., Bostlik, P., Mayne, A., King, C.L., Genain, C.P.,
Weiss, W.R. and Ansari, A.A.
TITLE      Cloning, sequencing, and homology analysis of nonhuman primate
Fas/Fas-ligand and co-stimulatory molecules
JOURNAL      Immunogenetics 53 (4), 315-328 (2001)
MEDLINE      21383618
PUBMED      11491535
REFERENCE      2 (bases 1 to 1062)
AUTHORS      Villinger, F.
TITLE      Direct Submission
JOURNAL      Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
University School of Medicine, Winship Cancer Institute, 1365B
Clifton Rd, Atlanta, GA 30322, USA
FEATURES
source
1. 1062
/organism="Cercopithecus torquatus atys"
/sub_species="atys"
/db_xref="taxon:9531"
6. 977
/note="B7.2"
/codon_start=1
/product="CD86 protein precursor"
/protein_id="AAK37536.1"
/db_xref="GI:13650001"
/translation="MGLSNILFVMAFLLSGAPLKIQAIFYNETADLPQGFANSQNSRL
SELVVEVNOENLVNENYVLRGKFDVSHKYGRTSPDSDWTLRNLNQLDKGLY
OCITHHKRPRTGRIHOMNSLVLNANFSOPELPIVSNITENNYINLDTSSIHGYEP
EKMSVILRTKNTPEYDGVCKMSQNDVTEYDLSISVSPFVTSNMILFVLETDK
TQLLSPFSTLELDDPPPPPHITPAVLETVITICVMAFCLIMKKKKKQPPANSINC
GNTMEREESEQTKRKINVPERSDAQCVFSLTPTSCDKSDTHF"
54. 974
/product="CD86 protein"
variation
29
/replacement="c"
52. 690
/note="deletion of extracellular domain"
/replacement="a"
81
/replacement="c"
295
/replacement="g"
356
/replacement="t"
418
/replacement="c"
444
variation

```

```

variation
458
/replacement="g"
458
/replacement="c"
502
/replacement="c"
504
/replacement="c"
519
/replacement="c"
621
/replacement="c"
690. 833
/note="deletion of transmembrane domain"
/replacement="a"
784
/replacement="c"
856
/replacement="t"
961. 962
/replacement="c"
970
/replacement="g"
1019
/replacement="c"
variation
323 a      234 c      208 g      297 t
BASE COUNT
ORIGIN
Query Match      3.9%; Score 33; DB 9; Length 1062;
Best Local Similarity 100.0%; Pred. No. 7.7e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      391 TCAGTGCTGCTACTGACGTCGACCTGAATA 423
Db      378 TCAGTGCTGCTACTGACGTCGACCTGAATA 410

RESULT 20
AF344861      1062 bp      mRNA      linear      PRI 06-SEP-2001
LOCUS
DEFINITION      Cercopithecus aethiops CD86 protein mRNA, complete cds.
ACCESSION      AF344861
VERSION      AF344861.1 GI:13650019
KEYWORDS
SOURCE      Cercopithecus aethiops.
ORGANISM      Cercopithecus aethiops.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
Cercopithecinae; Cercopithecus.
REFERENCE
AUTHORS      Villinger, F., Bostlik, P., Mayne, A., King, C.L., Genain, C.P.,
Weiss, W.R. and Ansari, A.A.
TITLE      Cloning, sequencing, and homology analysis of nonhuman primate
Fas/Fas-ligand and co-stimulatory molecules
JOURNAL      Immunogenetics 53 (4), 315-328 (2001)
MEDLINE      21383618
PUBMED      11491535
REFERENCE      2 (bases 1 to 1062)
AUTHORS      Villinger, F.
TITLE      Direct Submission
JOURNAL      Submitted (02-FEB-2001) Pathology and Laboratory Medicine, Emory
University School of Medicine, Winship Cancer Institute, 1365B
Clifton Rd, Atlanta, GA 30322, USA
FEATURES
source
1. 1062
/organism="Cercopithecus aethiops"
/db_xref="taxon:9534"
6. 977
/note="B7.2"
/codon_start=1
/product="CD86 protein"
/protein_id="AAK37543.1"
/db_xref="GI:13650020"
/translation="MGLNITLFVMAFLLSGAPLKIQAIFYNETADLPQGFANSQNSRL

```


ALIGNMENTS

Query Match 100.0%; Score 840; DB 20; Length 840;

QY	1	ATGATCTCAGATGCACTCTGGAACGTAAATCATTTCTCTTTGATATACCTCTCTGCTC	60
Db	1	ATGATCTCAGATGCACTCTGGAACGTAAATCATTTCTCTTTGATATACCTCTCTGCTC	60
QY	61	TATGTCCTGCTTCCATGGAAGTCAGCATATTTCTCAACAGACTGGAGAACCTGCCATGC	120
Db	61	TATGTCCTGCTTCCATGGAAGTCAGCATATTTCTCAACAGACTGGAGAACCTGCCATGC	120
QY	121	CATTTTACAAATTTCTCAAAACATTAAGCCTGGATGAGTTGGTAGTCTTTTGGCAGGACCAG	180
Db	121	CATTTTACAAATTTCTCAAAACATTAAGCCTGGATGAGTTGGTAGTCTTTTGGCAGGACCAG	180
QY	181	GATTAACCTGGTTCTGTACAGAGCTATACAGAGCAAGAAAGAACCCCTCAAAATGTTCAATGC	240
Db	181	GATTAACCTGGTTCTGTACAGAGCTATACAGAGCAAGAAAGAACCCCTCAAAATGTTCAATGC	240
QY	241	AAGTATAAAGGCGGCACAAGCTTTGACAAAGACAAATTTGGACCTTGAGACTCCATATATTT	300
Db	241	AAGTATAAAGGCGGCACAAGCTTTGACAAAGACAAATTTGGACCTTGAGACTCCATATATTT	300
QY	301	CAGATCAAGGACAAGGGCTGTATATCAATGTTCCGTTCATCTAAAGGGCCCAAGGACTC	360
Db	301	CAGATCAAGGACAAGGGCTGTATATCAATGTTCCGTTCATCTAAAGGGCCCAAGGACTC	360
QY	361	GTTTCCCATGCAACAGATGATTTCTACCTATACAGTGCCTGTAACTTACGTCAACCTGAA	420
Db	361	GTTTCCCATGCAACAGATGATTTCTACCTATACAGTGCCTGTAACTTACGTCAACCTGAA	420
QY	421	ATTAATGTTACTTCTTAATATGAACAGAAAAATTTGGCATCATTAATTTGACCTGCTCATCC	480
Db	421	ATTAATGTTACTTCTTAATATGAACAGAAAAATTTGGCATCATTAATTTGACCTGCTCATCC	480
QY	481	ATACAAAGTTACCCAGAAAGCCAGAGAGATGATTTTTGGTAAAAACCGAGAAATTCAGT	540
Db	481	ATACAAAGTTACCCAGAAAGCCAGAGAGATGATTTTTGGTAAAAACCGAGAAATTCAGT	540
QY	541	ACTAAGTATGATACTGTCATGAGAAGAAATCTCAAAATATATGTCACAGAACTCTACAAAGTT	600
Db	541	ACTAAGTATGATACTGTCATGAGAAGAAATCTCAAAATATATGTCACAGAACTCTACAAAGTT	600
QY	601	TCTATCAGCTGTCTCTTCTCTCAGTCCCTGTAGAACAGCAATGTGAGCAATCTTCTGTGTCCTG	660
Db	601	TCTATCAGCTGTCTCTTCTCTCAGTCCCTGTAGAACAGCAATGTGAGCAATCTTCTGTGTCCTG	660
QY	661	CACACTTGAGTCATGAGAACCTTCCCTCCTTACCTTATATATATAGAAACCAACAAAGTGGAG	720
Db	661	CACACTTGAGTCATGAGAACCTTCCCTCCTTACCTTATATATATAGAAACCAACAAAGTGGAG	720
QY	721	AGAAAAGAAAGTGAAGCAGACCAAGGAAAAGAGTACGGTACCATGTAAAGCGAAAGATCTGAT	780
Db	721	AGAAAAGAAAGTGAAGCAGACCAAGGAAAAGAGTACGGTACCATGTAAAGCGAAAGATCTGAT	780
QY	781	GAAGCCGAGTGTGTTAACTATTGCAAGACAGCTTCAGGCGCAACAGTACTACTACAGATTT	840
Db	781	GAAGCCGAGTGTGTTAACTATTGCAAGACAGCTTCAGGCGCAACAGTACTACTACTACAGATTT	840

Complementary strand of canine B7-2S coding sequence.

KM B7; CTL4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; canine;
 KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX OS Canis familiaris.
 XX PN WO947558-A2.
 XX PD 23-SEP-1999.
 XX PF 19-MAR-1999; 99WO-US06187.
 XX PR 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESK-) HESKA CORP.
 XX PI Slim G, Yang S, Sellins KS;
 XX DR WPI; 1999-571822/48.
 XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 PS Claim 1; Page 115; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;

Query Match 100.0%; Score 840; DB 20; Length 840;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 840; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCGATGACGACTATGAGCAATGAATCATCTCTTTGGATGACCCCTGCTC 60
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 840 ATGTATCTCGATGACGACTATGAGCAATGAATCATCTCTTTGGATGACCCCTGCTC 781
 QY 61 TATGTCCTGCTTCATGAGAGCTCAAGCATATTTCAACAGACTGAGAACCTGCATGC 120
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 780 TATGTCCTGCTTCATGAGAGCTCAAGCATATTTCAACAGACTGAGAACCTGCATGC 721
 QY 121 CATTTTCAAAATTCATAAAGCATAGGCTTGATGAGTTGTTGTTGGCAGACCGAG 180
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 720 CATTTTCAAAATTCATAAAGCATAGGCTTGATGAGTTGTTGTTGGCAGACCGAG 661
 QY 181 GATAAGCTGTTCTGTGAGCTATACAGAGGCAAGAGAACCCCTCAAAATGTTTCATCC 240
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 660 GATAAGCTGTTCTGTGAGCTATACAGAGGCAAGAGAACCCCTCAAAATGTTTCATCC 601
 QY 241 AAGTATAGGCGCGCACAGACTTGTGACAAAGACATTTGACCCCTGAGACTCCATTAATTT 300
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 600 AAGTATAGGCGCGCACAGACTTGTGACAAAGACATTTGACCCCTGAGACTCCATTAATTT 541
 QY 301 CAGATCAGAGCAAGGCGCTTGTATCAATGTTTGGTTTCATCATAAAGGCCCAAGAGACTC 360
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 540 CAGATCAGAGCAAGGCGCTTGTATCAATGTTTGGTTTCATCATAAAGGCCCAAGAGACTC 481
 QY 361 GTTCCCTGAGCAAGATTTGACCTTGTGAGCTGCTTGTGATGATGATGATGATGATGAT 420
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 480 GTTCCCTGAGCAAGATTTGACCTTGTGAGCTGCTTGTGATGATGATGATGATGATGAT 421
 QY 421 ATATGTAAGTCTTATATAGACAAATTTGCGCATCATTAATTTGACCTGCTCATCC 480
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 420 ATATGTAAGTCTTATATAGACAAATTTGCGCATCATTAATTTGACCTGCTCATCC 361
 QY 481 ATACAGGTTACCCAGAACCCAGAGATGATTTTGGTAAAAAACCGAATTCAGT 540
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

DB 360 ATACAGGTTACCCAGAACCCAGAGATGATTTTGGTAAAAAACCGAATTCAGT 301
 QY 541 ACTAGTATGATACGTCATGATAAGAAATTCCAATTAATGTCACAGAACTCTACAGCT 600
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 300 ACTAGTATGATACGTCATGATAAGAAATTCCAATTAATGTCACAGAACTCTACAGCT 241
 QY 601 TCTATCAGCTTGTCCCTTTCAGTCCCTGAGCAAGCAATGAGCACTTCTGTGCTCG 660
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 240 TCTATCAGCTTGTCCCTTTCAGTCCCTGAGCAAGCAATGAGCACTTCTGTGCTCG 181
 QY 661 CACTTGAGTCAATGAGACTTCCCTCCCTACCTTATATATATGAAACCAACAAAGTGGAG 720
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 180 CACTTGAGTCAATGAGACTTCCCTCCCTACCTTATATATATGAAACCAACAAAGTGGAG 121
 QY 721 AGAAAGAAAGTGGAGCAGACCAAGGAAGTACGATACATGTAAGGGAAGATCTGAT 780
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 120 AGAAAGAAAGTGGAGCAGACCAAGGAAGTACGATACATGTAAGGGAAGATCTGAT 61
 QY 781 GAAAGCCAGTGTGTTACATTTTCGAAAGACCTTCAGGCGCAACAGTACTACAGCTTT 840
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 DB 60 GAAAGCCAGTGTGTTACATTTTCGAAAGACCTTCAGGCGCAACAGTACTACAGCTTT 1

RESULT 3
 AA227921
 ID AA227921 standard; DNA; 1795 BP.
 XX
 XX AA227921;
 AC 20-DEC-1999 (first entry)
 XX
 DT
 DE Canine B7-2S protein encoding DNA.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 OS Canis familiaris.
 XX
 XX WO947558-A2.
 XX PN
 XX PD 23-SEP-1999.
 XX PF 19-MAR-1999; 99WO-US06187.
 XX PR 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESK-) HESKA CORP.
 XX PI Slim G, Yang S, Sellins KS;
 XX DR WPI; 1999-571822/48.
 XX DR P-PSDB; AAIV41078.
 XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 PS Claim 1; Page 109-111; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

SQ Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

Query Match 100.0%; Score 840; DB 20; Length 1795;

DE Canine B7-2s gene complementary DNA sequence.
XX
XX B7, CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Query Match	100.0%	Score 840;	DB 20;	Length 1795;
Best Local Similarity	100.0%	Pred. No. 0;		
Matches 840;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

QY	1	ATATATCTCAGATGACACTATATGAAAGTAATAAACATTCTCTTTGTATGACCCCTCCGGTCC	60
Db	1789	ATGATATCTCAGATGACACTATATGAAAGTAATAAACATTCTCTTTGTATGACCCCTCCGGTCC	1730
QY	61	TATGTCCTGCTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGAGAACCTGCCATGTC	120
Db	1729	TATGTCCTGCTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGAGAACCTGCCATGTC	1676
QY	121	CATTTTCACAATTCTCAAAACATAAGCCTTGATGAGTGGTAGTGTTTTGGCAGGACCCAG	180
Db	1669	CATTTTCACAAAATTTCTCAAAACATAAGCCTTGATGAGTGGTAGTGTTTTGGCAGGACCCAG	1610
QY	181	GATAGACTGGTTCTGTACGAGCTATACAGAGCCAAAGAACCCCTCAAAATTTTCATGCG	240
Db	1609	GATAGACTGGTTCTGTACGAGCTATACAGAGCCAAAGAACCCCTCAAAATTTTCATGCG	1550
QY	241	AAGTATAGAGGCGCGACACAGCTTTGACAAAGACAAATTGAGCCCTGAGACTCCATATATTT	300
Db	1549	AAGTATAGAGGCGCGACACAGCTTTGACAAAGACAAATTGAGCCCTGAGACTCCATATATTT	1490
QY	301	CAGATCAGAGCAAAAGGCTGTATCAATGTTTCGTATCATATAAAGGCCCAAGGACTC	360
Db	1489	CAGATCAGAGCAAAAGGCTGTATCAATGTTTCGTATCATATAAAGGCCCAAGGACTC	1430
QY	361	GTTCCCATGACACAGATGAATTTCTGACACTATCAGTCTGCTGATACCTCAGTCAACCTGAA	420
Db	1429	GTTCCCATGACACAGATGAATTTCTGACACTATCAGTCTGCTGATACCTCAGTCAACCTGAA	1370
QY	421	ATAATGTAACCTTCTATATAGAACGAAAAATTCGCGCATCATAAATTTGACCTGCTCATCC	480
Db	1369	ATAATGTAACCTTCTATATAGAACGAAAAATTCGCGCATCATAAATTTGACCTGCTCATCC	1310
QY	481	ATACAGGTTACCCAGAACCCAAAGGATGTATTTTTTGGTAAAAACGACGAAATTCAGT	540

Db 1309 ATCAAGTTTACCAGACCCAGAGAGATGATTTTTTGGTAAAAACCGAATTCACGT 1250
 QY 541 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTCAAGACTTACAAAGTT 600
 Db 1249 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTCAAGACTTACAAAGTT 1190
 QY 601 TCTATGAGCTTGTCTCTTCATGAGTCCCTGGAAGCAATGTGAGCATCTTCTGTCTCG 660
 Db 1189 TCTATGAGCTTGTCTCTTCATGAGTCCCTGGAAGCAATGTGAGCATCTTCTGTCTCG 1130
 QY 661 CAACCTGAGTCATGAAAGTCTCCCTCCCTACCTTATATATATGAAACCAAGATCTGAT 720
 Db 1129 CAACCTGAGTCATGAAAGTCTCCCTCCCTACCTTATATATATGAAACCAAGATCTGAT 1070
 QY 721 AGAAAGAAAGTGAAGCAGACCAAGAAAGATAGCGTACCATGAAACGGAAGATCTGAT 780
 Db 1069 AGAAAGAAAGTGAAGCAGACCAAGAAAGATAGCGTACCATGAAACGGAAGATCTGAT 1010
 QY 781 GAAGCCAGTGTGTATACATTTTCGAAGACAGCTTCAGGCGACAGATCTACACAGTTT 840
 Db 1009 GAAGCCAGTGTGTATACATTTTCGAAGACAGCTTCAGGCGACAGATCTACACAGTTT 950

RESULT 5

AA227915
 ID AA227915 standard; DNA; 987 BP.

AA227915;

20-DEC-1999 (first entry)

Canine B7-2 protein coding sequence.

B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Canis familiaris.

WO9947558-A2.

23-SEP-1999.

19-MAR-1999; 99WO-US06187.

19-MAR-1998; 98US-0078765.

17-APR-1998; 98US-0062597.

(HESK-) HESKA CORP.

Sim G, Yang S, Sellins KS;

WPI, 1999-571822/48.

P-PSDB; AAY41076.

New isolated B7 and CTLA4 nucleic acids, used to develop products for
 treating, e.g., autoimmune and atopic diseases

Claim 1; Page 102-103; 148pp; English.

The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 encoding nucleic acid molecules from dogs and cats. The proteins can be
 expressed by standard recombinant methodology. The nucleic acid molecules
 and the encoded proteins can be used for preventing or treating diseases,
 e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor
 development, graft rejection, inflammation, arthritis and atopic diseases
 such as atopic dermatitis. They can be used in mammals such humans, dogs,
 cats, cattle, sheep or pets. The products can also be used for detection,
 diagnosis and drug screening.

Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;

Query Match 83.8%; Score 704; DB 20; Length 987;

Best Local Similarity 100.0%; Pred. No. 0;
 Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGATATCTCAGATGACTATGAACTGAAATACATTTCTTTGTGATGACCTCTCTC 60
 Db 1 ATGATATCTCAGATGACTATGAACTGAAATACATTTCTTTGTGATGACCTCTCTC 60
 QY 61 TATGCTGCTGCTCCATGAAAGTCAAGCATATTTTCAACAAAGTGGAAACTGCCATGC 120
 Db 61 TATGCTGCTGCTCCATGAAAGTCAAGCATATTTTCAACAAAGTGGAAACTGCCATGC 120
 QY 121 CATTTTCAAAATTTCTCAAAACATAGAGCTGGATGATGTTGATGTTTGGCAGACAG 180
 Db 121 CATTTTCAAAATTTCTCAAAACATAGAGCTGGATGATGTTGATGTTTGGCAGACAG 180
 QY 181 CATTAAGCTGTTCTGTACGACCTATPACAGAGCAAGAAAGAAACCTCAAAATGTCATGC 240
 Db 181 GATTAAGCTGTTCTGTACGACCTATPACAGAGCAAGAAAGAAACCTCAAAATGTCATGC 240
 QY 241 AAGTATTAAGGCGCGACAGAGCTTTGACAAAGACAATTGSAACCTGAGACACATATAT 300
 Db 241 AAGTATTAAGGCGCGACAGAGCTTTGACAAAGACAATTGSAACCTGAGACACATATAT 300
 QY 301 CAGATCAAGGACAAAGGCGTTGATCAATGTTTGGTCAATGATTAAGGCGCCAAAGACTC 360
 Db 301 CAGATCAAGGACAAAGGCGTTGATCAATGTTTGGTCAATGATTAAGGCGCCAAAGACTC 360
 QY 361 GTTCCCATGACACAGATGATGATTTGACCTATCATGCTTGTCTTAACCTCAACCTGAA 420
 Db 361 GTTCCCATGACACAGATGATGATTTGACCTATCATGCTTGTCTTAACCTCAACCTGAA 420
 QY 421 ATTAATGTAACTTCTAATAGAACAGAAATCTGCAATCAATTTGACCTGCTCATCC 480
 Db 421 ATTAATGTAACTTCTAATAGAACAGAAATCTGCAATCAATTTGACCTGCTCATCC 480
 QY 481 ATPACAGGTTAACCCAGAACCCAGAGAGATGATTTTGGTAAAAACCGAATTCAGT 540
 Db 481 ATPACAGGTTAACCCAGAACCCAGAGAGATGATTTTGGTAAAAACCGAATTCAGT 540
 QY 541 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTCACAGACCTCAACAGTT 600
 Db 541 ACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGTCACAGACCTCAACAGTT 600
 QY 601 TCTATCAGCTTGTCTCTCTCTCAGTCCCTGGAAGCAAGCAATGTGAGCATCTTGTCTCTG 660
 Db 601 TCTATCAGCTTGTCTCTCTCTCAGTCCCTGGAAGCAAGCAATGTGAGCATCTTGTCTCTG 660
 QY 661 CAACCTGAGTCATGAAAGTCTCCCTCCCTACCTTATATATATAGA 704
 Db 661 CAACCTGAGTCATGAAAGTCTCCCTCCCTACCTTATATATATAGA 704

RESULT 6

AA227916/C
 ID AA227916 standard; DNA; 987 BP.

AA227916;

20-DEC-1999 (first entry)

Complementary strand of canine B7-2 coding sequence.

B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; canine;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Canis familiaris.

WO9947558-A2.

23-SEP-1999.

19-MAR-1999; 99WO-US06187.

```

XX 19-MAR-1998: 98US-0078765.
PR 17-APR-1998: 98US-0062597.
XX (HESK-) HESKA CORP.
XX Slim G, Yang S, Sellins KS;
PI WPI: 1999-571822/48.
DR
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1: Page 103-104; 148bp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;

Query Match      83.8%; Score 704; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCAGATGACATATGAACTGAAATACATTCCTTTTGATGACCTCTGCTC 60
DB 987 ATGTATCTCAGATGACATATGAACTGAAATACATTCCTTTTGATGACCTCTGCTC 928
QY 61 TATGTCGTCCTTCATTAAGAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
DB 927 TATGTCGTCCTTCATTAAGAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 868
QY 121 CATTTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTCAGAGCAG 180
DB 867 CATTTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTCAGAGCAG 808
QY 181 GATAAGCTGTTCTGTACAGCTATACAGAGCAAGAAACCTCAAAATGTTTCATGCC 240
DB 807 GATAAGCTGTTCTGTACAGCTATACAGAGCAAGAAACCTCAAAATGTTTCATGCC 748
QY 241 AAGTATAGGGCGCCACAAAGCTTGACAAAGACAATGGACCCGAGAGCTCATATATT 300
DB 747 AAGTATAGGGCGCCACAAAGCTTGACAAAGACAATGGACCCGAGAGCTCATATATT 688
QY 301 CAGATCAAGAGCAAGGGCTTGATCAATGTTCTTCATCAATAAAGGCCCAAGAGACTC 360
DB 687 CAGATCAAGAGCAAGGGCTTGATCAATGTTCTTCATCAATAAAGGCCCAAGAGACTC 628
QY 627 GTTCCCATGACACAGATGATTTGACCTATACAGTGTGCTTAACTTCAACCTGAA 420
DB 421 GTTCCCATGACACAGATGATTTGACCTATACAGTGTGCTTAACTTCAACCTGAA 420
QY 421 ATAATGTAAGTCTTAATAGAAAGAAATTTCTGGCATCAATAATTGACTGCTCATCC 480
DB 567 ATAATGTAAGTCTTAATAGAAAGAAATTTCTGGCATCAATAATTGACTGCTCATCC 508
QY 481 ATACAAGGTTACCCGAAGCCCAAGAGATGATTTTGGTAAAGGAGCAATTTCAAGT 540
DB 507 ATACAAGGTTACCCGAAGCCCAAGAGATGATTTTGGTAAAGGAGCAATTTCAAGT 448
QY 541 ACTAAGTATGATCTGTGATGAAGAAATCTCAAAATAATGTACAGAACTCTACAGCTT 600
DB 600 ACTAAGTATGATCTGTGATGAAGAAATCTCAAAATAATGTACAGAACTCTACAGCTT 388
QY 601 TGTATACAGTGTCTCTTCTCAGTCCCTGAAGCAAGCAATGTGAGCATCTTGTGTCTG 660
DB 660 TGTATACAGTGTCTCTTCTCAGTCCCTGAAGCAAGCAATGTGAGCATCTTGTGTCTG 660

```

```

DB 387 TCTATCAGCTTGCTTCCTCTCAGTCCCTGAAGCAAGCATGTGAGCATCTTGTGTCTG 328
QY 661 CAACCTGAGTCATGAGAGCTTCCCTCCCTACTCTTAATATATGA 704
DB 327 CAACCTGAGTCATGAGAGCTTCCCTCCCTACTCTTAATATATGA 284

RESULT 7
AA227913
ID AA227913 standard; DNA; 1897 BP.
XX
XX AA227913;
AC
XX
XX 20-DEC-1999 (first entry)
DT
XX
DE Canine B7-2 protein encoding DNA.
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Canis familiaris.
XX
XX WO947558-A2.
PN
XX
XX 23-SEP-1999.
PD
XX
XX 19-MAR-1999; 99WO-US06187.
PF
XX
XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Slim G, Yang S, Sellins KS;
PI WPI: 1999-571822/48.
DB P-PADB: AA41076.
DR
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1: Page 97-99; 148bp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;

Query Match      83.8%; Score 704; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGTATCTCAGATGACATATGAACTGAAATACATTCCTTTTGATGACCTCTGCTC 60
DB 6 ATGTATCTCAGATGACATATGAACTGAAATACATTCCTTTTGATGACCTCTGCTC 65
QY 61 TATGTCGTCCTTCATTAAGAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 120
DB 66 TATGTCGTCCTTCATTAAGAGTCAGCATATTTCAACAAGACTGAGAACTGCCATGC 125
QY 121 CATTTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTCAGAGCAG 180
DB 126 CATTTTACAATTTCTCAAAACATTAAGCTGGATGATGTTGTAGTGTGTCAGAGCAG 185
QY 181 GATAAGCTGTTCTGTACAGCTATACAGAGCAAGAAACCTCAAAATGTTTCATGCC 240
DB 240 GATAAGCTGTTCTGTACAGCTATACAGAGCAAGAAACCTCAAAATGTTTCATGCC 240

```



```

|||||
Db 186 GATTAAGCTGTTTGTATACAGCTATACAGGAAAGAAACCCCTCAAAATGTTTCATGCC 245
QY 241 AAGTATAGGGCCGACAAAGCTTTGACAAAGCAATTTGACCCCTGAGACTCCATATATT 300
Db 246 AAGTATAGGGCCGACAAAGCTTTGACAAAGCAATTTGACCCCTGAGACTCCATATATT 305
QY 301 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGGTTCATCATATAAGGGCCCAAGGACTC 360
Db 306 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGGTTCATCATATAAGGGCCCAAGGACTC 365
QY 361 GTTCCCATGACCCAGATGATTTCTGACCTATCATAGTCTTGTACTTCACTGTAACCTGAA 420
Db 366 GTTCCCATGACCCAGATGATTTCTGACCTATCATAGTCTTGTACTTCACTGTAACCTGAA 425
QY 421 ATATAGTACTCTCTATAGAACAGAAATTTGGCATATTAATTTGACCTGCTCATGC 480
Db 426 ATATAGTACTCTCTATAGAACAGAAATTTGGCATATTAATTTGACCTGCTCATGC 485
QY 481 ATACAAGGTTACCCAGAACCCAAAGAGATGTAATTTTGGTAAACCGAGAAATCAAGT 540
Db 486 ATACAAGGTTACCCAGAACCCAAAGAGATGTAATTTTGGTAAACCGAGAAATCAAGT 545
QY 541 ACTAATGATGATACGTGTCATGAAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGT 600
Db 546 ACTAATGATGATACGTGTCATGAAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGT 605
QY 601 TCTATCAGCTTGTCTTCTCAAGTCCCTGGAAGCAAGCATGTGAGATCTTGTGTCTG 660
Db 606 TCTATCAGCTTGTCTTCTCAAGTCCCTGGAAGCAAGCATGTGAGATCTTGTGTCTG 665
QY 661 CAACCTGAGTCATGAAGCTTCCCTCCCTACCTTATATATAGA 704
Db 666 CAACCTGAGTCATGAAGCTTCCCTCCCTACCTTATATATAGA 709

RESULT 8
AAZ27914/C
ID AAZ27914 standard; DNA; 1897 BP.
XX
AC AAZ27914;
XX
DT 20-DEC-1999 (first entry)
XX
DE Canine B7-2 gene complementary DNA sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Canis familiaris.
XX
PN WO9947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
XX
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PT Sim G, Yang S, Sellins KS.
XX
DR WPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 101-102; 148pp; English.
XX
PS The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC

```

```

CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
Query Match 83.8%; Score 704; DB 20; Length 1897;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 704; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ATGTATCTCAGATGACATATGAGAACTGATATACATTTCTTTTGGATGACCCTCTCTC 60
Db 1892 ATGTATCTCAGATGACATATGAGAACTGATATACATTTCTTTTGGATGACCCTCTCTC 1833
QY 61 TATGCTGCTGCTCCATGAAAGATCAAGCATATTTCAACAGACTGAGAACTGCATGC 120
Db 1832 TATGCTGCTGCTCCATGAAAGATCAAGCATATTTCAACAGACTGAGAACTGCATGC 1773
QY 121 CATTTTACAATTTCTCAAAACATAAGCCTGATGATGTTGTTGGCAGGACGAG 180
Db 1772 CATTTTACAATTTCTCAAAACATAAGCCTGATGATGTTGTTGGCAGGACGAG 1713
QY 181 GATAGAGCTGTTCTGTATACAGCTATACAGAGCAAGAACCCCTCAAAATGTTTCATGCG 240
Db 1712 GATAGAGCTGTTCTGTATACAGCTATACAGAGCAAGAACCCCTCAAAATGTTTCATGCG 1653
QY 241 AAGTAAAGGGCCGACAAAGCTTTGACAAAGACAATTTGGACCCCTGAGATCTCATATATT 300
Db 1652 AAGTAAAGGGCCGACAAAGCTTTGACAAAGACAATTTGGACCCCTGAGATCTCATATATT 1593
QY 301 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGTATATCAATTAAGGGCCCAAGGACTC 360
Db 1592 CAGATCAAGGACAAAGGGCTTGTATCAATGTTTGTATATCAATTAAGGGCCCAAGGACTC 1533
QY 361 GTTCCCATGACCCAGATGATTTCTGACCTATCAGTGTGCTACTTCACTGCAACCTGAA 420
Db 1532 GTTCCCATGACCCAGATGATTTCTGACCTATCAGTGTGCTACTTCACTGCAACCTGAA 1473
QY 421 ATATGTAACCTTCTAATAGAACAGAAATTTGGCATCATTAATTTGACCTGCTCATGC 480
Db 1472 ATATGTAACCTTCTAATAGAACAGAAATTTGGCATCATTAATTTGACCTGCTCATGC 1413
QY 481 ATACAAGGTTACCCAGAACCCAAAGAGATGTAATTTTGGTAAACCGAGAAATTCAGT 540
Db 1412 ATACAAGGTTACCCAGAACCCAAAGAGATGTAATTTTGGTAAACCGAGAAATTCAGT 1353
QY 541 ACTAATGATGATACGTGTCATGAAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGT 600
Db 1352 ACTAATGATGATACGTGTCATGAAAGAAATCTCAAAATATGTCACAGAACTCTACAAAGT 1293
QY 601 TCTATCAGCTTGTCTTCTCAAGTCCCTGGAAGCAAGCATGTGACATCTTGTGTCTG 660
Db 1292 TCTATCAGCTTGTCTTCTCAAGTCCCTGGAAGCAAGCATGTGACATCTTGTGTCTG 1233
QY 661 CAACCTGAGTCATGAAGCTTCCCTCCCTACCTTATATATAGA 704
Db 1232 CAACCTGAGTCATGAAGCTTCCCTCCCTACCTTATATATAGA 1189

RESULT 9
AAZ27931
ID AAZ27931 standard; DNA; 996 BP.
XX
AC AAZ27931;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein coding sequence.
CC

```

```

XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN W09947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
XX
PR 17-APR-1998; 98US-0062597.
XX
PA (HESKA-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
DR P-PSDB; AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g., autoimmune and atopic diseases
XX
PS Claim 1; Page 123-124; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 319 A; 219 G; 203 C; 255 T; 0 other;
XX
Query Match 7.3%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 2.4e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCATGAAGAGTCACATATTTCACAAGACTGAGAGTGCATGCCATTTTACAA 130
DB 74 CTTCATGAAGAGTCACATATTTCACAAGACTGAGAGTGCATGCCATTTTACAA 133
QY 131 A 131
DB 134 A 134
XX
RESULT 10
AAZ27932/C
ID AAZ27932 standard; DNA; 996 BP.
XX
AC AAZ27932;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of feline B7-2 coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN W09947558-A2.
XX
PD 23-SEP-1999.
XX

```

```

PF 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESKA-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI: 1999-571822/48.
DR
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g., autoimmune and atopic diseases
XX
PS Claim 1; Page 124-125; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g., autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritis and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
XX
Query Match 7.3%; Score 61; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 2.4e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 71 CTTCATGAAGAGTCACATATTTCACAAGACTGAGAGTGCATGCCATTTTACAA 130
DB 923 CTTCATGAAGAGTCACATATTTCACAAGACTGAGAGTGCATGCCATTTTACAA 864
QY 131 A 131
DB 863 A 863
XX
RESULT 11
AAZ34838
ID AAZ34838 standard; cDNA; 1080 BP.
XX
AC AAZ34838;
XX
DT 28-FEB-2000 (first entry)
XX
DE Feline CD86 (B7-2) cDNA.
XX
KW CD86; B7-2; feline; cat; recombinant virus; vaccine;
KW immunomodulator; tumour; cancer; therapy; ss.
XX
OS Felis domesticus.
XX
FH Key Location/Qualifiers
FT CDS 63..1052
FT /tag= a
XX
PN W0957295-A1.
XX
PD 11-NOV-1999.
XX
PF 30-APR-1999; 99WO-US09504.
XX
PR 01-MAY-1998; 98US-0071711.
XX
XX (SCHE ) SCHERING-PLOUGH LTD.
PA (SCHE ) SCHERING-PLOUGH VETERINARY CORP.
XX
PI Winslow BJ, Cochran MD;
XX

```

DR WPI; 2000-062155/05.
 DR P-PSDB; AAY32285.
 XX
 XX
 PT Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines
 XX
 PS Disclosure; Fig 3A; 230pp; English.
 XX
 XX This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences,
 CC capable of suppressing an immune response in a feline, e.g. for
 CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
 CC to reduce or eliminate a tumour in cats.
 XX
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 71 CTTCCATGAGAGTCACGATATTTCACACAGACTGAGACTGCCATTTTACAA 130
 Db 136 CTTCCATGAGAGTCACGATATTTCACACAGACTGAGACTGCCATTTTACAA 195
 OY 131 A 131
 Db 196 A 196
 XX
 RESULT 12
 AA234785
 ID AA234785 standard; cDNA; 1080 BP.
 XX
 AC AA234785;
 XX
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 KW CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KW FIV; feline leukaemia virus; feline infectious peritonitis virus;
 KW feline panleukopenia virus; feline calicivirus; feline reovirus-3;
 KW feline rotavirus; feline coronavirus; feline syncytial virus;
 KW feline sarcoma virus; feline herpesvirus; feline Borna disease;
 KW rabies virus; chlamydia; Toxoplasmosis gondii; Dirofilaria immitis;
 KW parasite; autoimmune disease; transplant rejection; therapy; ss.
 XX
 OS Feline domesticus.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1035
 FT /tag= a
 XX
 PN WO957271-A2.
 XX
 PD 11-NOV-1999.
 XX
 PF 30-APR-1999; 99WO-US09502.
 XX
 PR 01-MAY-1998; 98US-0071699.

XX
 PA (TEXA) TEXAS A & M SYSTEM.
 XX
 PI Collison EM, Hash SM, Choi I;
 XX
 DR WPI; 2000-052972/04.
 DR P-PSDB; AAY32278.
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species -
 XX
 PS Claim 6; Fig 3A; 186pp; English.
 XX
 XX This is the nucleotide sequence of cDNA encoding feline CD86
 CC (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
 CC peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
 CC comprising nucleic acid encoding feline CD86 ligand or feline
 CC soluble CD80 ligand is designated PSI-2#19-2/011298 (ATCC 209821).
 CC The coexpression of CD86 with the costimulatory molecules CD28 (see
 CC AAY32279) and a tumour antigen or an antigen from a pathogenic
 CC organism has the ability to activate or enhance activation of
 CC T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
 CC the ability to regulate activation of T-lymphocytes. The invention
 CC provides isolated nucleic acids encoding feline CD86 ligand,
 CC feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
 CC (CD152) receptor, as well as vectors comprising the nucleic acids,
 CC and polypeptides encoded by the nucleic acids. It also provides
 CC vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
 CC further comprising immunogens derived from pathogens, especially
 CC feline immunodeficiency virus (FIV), feline leukaemia virus,
 CC feline infectious peritonitis virus, feline panleukopenia virus,
 CC feline calicivirus, feline reovirus-3, feline rotavirus, feline
 CC coronavirus, feline syncytial virus, feline sarcoma virus, feline
 CC herpesvirus, feline Borna disease virus, rabies virus, chlamydia,
 CC Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
 CC pathogen, or parasite (all claimed). Vaccines capable of
 CC enhancing an immune response, and vaccines capable of suppressing
 CC an immune response (suitable for treating an autoimmune disease
 CC or tissue or organ transplant rejection) are claimed. The
 CC nucleic acids may be used for gene therapy or antisense therapy
 CC protocols.
 XX
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 71 CTTCCATGAGAGTCACGATATTTCACACAGACTGAGACTGCCATTTTACAA 130
 Db 136 CTTCCATGAGAGTCACGATATTTCACACAGACTGAGACTGCCATTTTACAA 195
 OY 131 A 131
 Db 196 A 196
 XX
 RESULT 13
 AAL46840
 ID AAL46840 standard; cDNA; 1080 BP.
 XX
 AC AAL46840;
 XX
 DT 08-AUG-2002 (first entry)
 XX
 DE Feline CD86 coding sequence.
 XX
 KW Cat; CD28; CTLA-4; CD86; immunogen; vaccine; viral infection;
 KW feline immunodeficiency disease; feline infectious peritonitis;
 KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
 KW virucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.
 XX

OS Felis catus.
 XX US2002051792-A1.
 PN 02-MAY-2002.
 PD 30-APR-1999; 99US-0303040.
 XX 01-MAY-1998; 98US-083870P.
 XX (WINS/) WINSLOW B. J.
 PA (COCH/) COCHRAN M. D.
 XX Winslow BJ, Cochran MD;
 PI WPI: 2002-415200/44.
 DR P-PSDB: AAO17734.
 XX New recombinant virus, useful for immunizing felines to prevent or
 PT treat feline immunodeficiency virus, comprises foreign nucleic acid
 PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
 PT CD86 or CTLA-4 -
 XX Disclosure: Fig 3; 77pp; English.
 PS The present invention relates to a recombinant virus comprising at least
 CC one foreign nucleic acid encoding a protein selected from feline
 CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
 CC which is capable of expression when the virus is introduced into an
 CC appropriate host. The virus can be administered to the feline in order to
 CC elicit or enhance an immune response to prevent or treat feline
 CC immunodeficiency disease, feline leukemia, feline infectious peritonitis,
 CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
 CC present sequence is the coding sequence of a cytotoxic T lymphocyte
 CC accessory molecule described in the exemplification of the invention.
 XX
 SO Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 Query Match 7.3%; Score 61; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCATGAGAGTCAAGCATATTTCAACAGACTGAGAACTGCCATGCTTTTACAA 130
 Db 136 CTTCATGAGAGTCAAGCATATTTCAACAGACTGAGAACTGCCATGCTTTTACAA 195
 QY 131 A 131
 Db 196 A 196
 RESULT 14
 ABK48230
 ID ABK48230 standard; CDNA; 1080 BP.
 XX
 AC ABK48230;
 XX
 DT 02-JUL-2002 (first entry)
 XX
 DE cDNA encoding feline CD86 protein.
 XX
 XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
 KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 KW feline leukemia; felv; calicivirus; rotavirus; reovirus type 3;
 KW coronavirus; herpes; borna disease.
 XX
 OS Felis sp.
 XX
 FH Key Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a

FT /Product= "CD86 protein"
 XX US2002028208-A1.
 PN 07-MAR-2002.
 PD 30-APR-1999; 99US-0303510.
 XX 01-MAY-1998; 98US-083869P.
 XX (COLL/) COLLISON E. W.
 PA (HASH/) HASH S. M.
 PA (CHOI/) CHOI I.
 XX Collison EW, Hash SM, Choi I;
 PI WPI: 2002-315045/35.
 DR P-PSDB: AAU78121.
 XX Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 PT receptor or CTLA-4 receptor as vaccine for inducing immune response in
 PT feline suffering from autoimmune disease or tissue or organ transplant
 PT
 XX Claim 6; Fig 3A; 73pp; English.
 PS This invention relates to the DNA and protein sequences encoding a
 CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 CC invention also relates to a vaccine comprising an effective amount of
 CC these receptor proteins. A vaccine is useful for inducing immunity or
 CC enhancing an immune response in a cat. The protein sequences of the
 CC invention are useful for suppressing an immune response in a feline
 CC suffering from an autoimmune disease or the recipient of a tissue or
 CC organ transplant. A vector containing the DNA sequences of the
 CC invention is useful for redirecting an immune response in a feline to an
 CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 CC flea, feline immunodeficiency virus, feline leukemia (felv), feline
 CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
 CC sarcoma virus, borna disease virus or a parasite. The protein sequences
 CC may be further utilised to promote growth in homologous or heterologous
 CC feline species. Enhancement of immunity through the interaction of an
 CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 CC immune response through the interaction of feline CD80 or CD86 with
 CC CTLA-4 takes advantage of the natural process of regulation rather than
 CC adding foreign substances that could have multiple, even detrimental
 CC effects on overall or long term health. The present sequence represents
 CC a cDNA encoding the feline CD86 protein of the invention.
 XX
 SO Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 Query Match 7.3%; Score 61; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCATGAGAGTCAAGCATATTTCAACAGACTGAGAACTGCCATGCTTTTACAA 130
 Db 136 CTTCATGAGAGTCAAGCATATTTCAACAGACTGAGAACTGCCATGCTTTTACAA 195
 QY 131 A 131
 Db 196 A 196
 RESULT 15
 AAZ27929
 ID AAZ27929 standard; DNA; 2830 BP.
 XX
 AC AAZ27929;
 XX
 DT 20-DEC-1999 (first entry)
 XX

DE Feline B7-2 protein encoding DNA.
 XX
 XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS.
 XX
 DR WPI: 1999-571822/48.
 DR P-PSDB; AAY41079.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 116-119; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 130
 Db 252 CTTCCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 311
 QY 131 A 131
 Db 312 A 312
 XX
 RESULT 16
 AA227930/c
 ID AA227930 standard; DNA; 2830 BP.
 XX
 AC AA227930;
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene complementary DNA sequence.
 XX
 KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN WO9947558-A2.
 XX
 PD 23-SEP-1999.
 XX

XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 121-123; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other;
 XX
 Query Match 7.3%; Score 61; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 2.3e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 71 CTTCCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 130
 Db 2579 CTTCCATGAAGAGTCAAGCATATTTCACACAGACTGGAGACTGCCATTGTTACAA 2520
 QY 131 A 131
 Db 2519 A 2519
 XX
 RESULT 17
 AAT62939
 ID AAT62939 standard; DNA; 764 BP.
 XX
 AC AAT62939;
 XX
 DT 16-JUN-1997 (first entry)
 XX
 DE Chimeric human/porcine CD86 DNA construct.
 XX
 KW Xenotransplantation; graft rejection; cell interaction; pig;
 KW CD86; monoclonal antibody; chimeric antibody; diagnosis; ss.
 XX
 OS Chimeric Homo sapiens;
 OS Chimeric Sus scrofa.
 XX
 FH Key Location/Qualifiers
 FT CDS 7..749
 FT /*tag= a
 FT /note= "the porcine CD86 sequence spans
 FT sig_peptide 7..81
 FT mat_peptide 82..756
 FT /*tag= c
 XX
 PN MO9711971-A1.
 XX
 PD 03-APR-1997.
 XX
 PF 27-SEP-1996; 96WO-US15575.
 XX

```

XX 26-SEP-1996; 96US-0004489.
PR 28-SEP-1995; 95US-0004489.
XX
PA (ALEX-) ALEXION PHARM INC.
PI Evans MJ, Matis LA, Mueller EE, Mueller JP, Rollins S;
PI Rother RP;
DR WPI: 1997-212855/19.
DR P-SDB: AAM14944.
XX
PT Antibodies binding to porcine but not human cell interaction
PT proteins - useful to treat and assay for rejection of xenografted
PT porcine organs, tissues or cells
XX
PS Disclosure; Page 69-70; 105pp; English.
XX
CC A DNA construct (AAT62939) codes for a chimeric human/porcine
CC CD86 (B7-2) cell adhesion molecule. RT-PCR was used to amplify
CC an internal segment of the porcine CD86 gene from RNA isolated
CC from lipopolysaccharide-stimulated porcine peripheral blood
CC lymphocytes. A second PCR fragment encoding a truncated N-terminus
CC was prep'd by 5'RACE PCR. The partial gene fragment was fused to
CC the C-terminal 49 amino acids of the human CD86 19C domain by
CC overlapping PCR; the 3' primer included 15 nucleotides encoding a
CC histidine tag. Antibodies to porcine CD86 protein are useful for
CC diagnosing human rejection of porcine xenotransplants and for
CC improving xenotransplantation of porcine cells, tissues and organs
CC into human recipients.
XX
SQ Sequence 764 BP; 218 A; 197 C; 148 G; 201 T; 0 other;
Query Match 5.2%; Score 44; DB 18; Length 764;
Best Local Similarity 100.0%; Pred. No. 8.1e-12;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 381 TTCTGACCTATCAGTGTGCTGCTAACTTCAGTCACCTGAATAA 424
Db 387 TTCTGACCTATCAGTGTGCTGCTAACTTCAGTCACCTGAATAA 430

```

```

XX WPI: 2000-442537/38.
DR P-SDB: AAY95321.
XX
PT Novel methods for improving tolerance to a xenograft comprising
PT immunizing a mammal with a T-cell epitope and a B-cell epitope -
XX
PS Disclosure; Fig 3; 81pp; English.
XX
CC The present sequence is that of cDNA clone CD86(1), which encodes
CC pig costimulatory molecule CD86 (B7-2) (see AAY95321). The clone
CC was obtained by PCR amplification of pig cDNA using primers (see
CC AAY9662-63) based on a published pig B7-2 sequence. The invention
CC relates to a novel strategy to inhibit costimulation by porcine
CC cells of human T cells, with particular importance in the context
CC of xenotransplantation of porcine organs. Recipients are immunised
CC with hybrid synthetic peptides comprising a T cell epitope
CC conjugated to sequences of the porcine costimulatory molecules
CC CD80, CD86 or CD40. Peptides that induce antibodies specific for
CC regions of costimulatory molecules involved in binding to their
CC counter-receptors on human cells (CD28 and CD14) are capable of
CC blocking the delivery of costimulation. Once the antibody response
CC has been induced, the transplanted organ will recall this response
CC due to the expression of the costimulatory molecules, thereby
CC sustaining the response, and providing an endogenous mechanism of
CC costimulatory blockade. The method is useful for improving the
CC tolerance of a host to xenografts, particularly porcine pancreatic
CC islet cells.
XX
SQ Sequence 1050 BP; 305 A; 260 C; 227 G; 258 T; 0 other;
Query Match 5.2%; Score 44; DB 21; Length 1050;
Best Local Similarity 100.0%; Pred. No. 8.1e-12;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 381 TTCTGACCTATCAGTGTGCTGCTAACTTCAGTCACCTGAATAA 424
Db 398 TTCTGACCTATCAGTGTGCTGCTAACTTCAGTCACCTGAATAA 441

```

```

RESULT 19
AA227935
ID AA227935 standard; DNA; 359 BP.
XX
AC AA227935;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein (smaller fragment) encoding DNA.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI: 1999-571822/48.
DR P-SDB: AAY41081.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

```

PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 127-128; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
XX
Query Match 5.0%; Score 42; DB 20; Length 359;
Best Local Similarity 100.0%; Pred. No. 8.2e-11;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
|||||
DB 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 101
RESULT 20
AAZ27936/C
ID AAZ27936 standard; DNA; 359 BP.
XX
AC AAZ27936;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 gene (smaller fragment) complementary DNA sequence.
XX
KM B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; feline;
KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN WO9447558-A2.
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 129; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;

Query Match 5.0%; Score 42; DB 20; Length 359;
Best Local Similarity 100.0%; Pred. No. 8.2e-11;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
|||||
DB 300 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 259
RESULT 21
AAZ27933
ID AAZ27933 standard; DNA; 509 BP.
XX
AC AAZ27933;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein (larger fragment) encoding DNA.
XX
KM B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; feline;
KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN WO9447558-A2.
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Sim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
DR P-PSDB; AAY41080.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 125-126; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;
XX
Query Match 5.0%; Score 42; DB 20; Length 509;
Best Local Similarity 100.0%; Pred. No. 8.2e-11;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 581
|||||
DB 60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATGCT 101
RESULT 22
AAZ27934/C
ID AAZ27934 standard; DNA; 509 BP.
XX
AC AAZ27934;

DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene (larger fragment) complementary DNA sequence.
 XX
 XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Fells catus.
 XX
 XX WO9947558-A2.
 XX
 XX 23-SEP-1999.
 XX
 XX 19-MAR-1999; 99WO-US06187.
 XX
 XX 19-MAR-1998; 98US-0078765.
 XX
 XX 17-APR-1998; 98US-0062597.
 XX
 XX (HESK-) HESKA CORP.
 XX
 XX Slim G, Yang S, Sellins KS;
 XX
 XX WPI: 1999-571822/48.
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 XX Claim 1; Page 127; 148pp; English.
 XX
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX
 XX Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 XX
 XX
 XX Query Match 5.0%; Score 42; DB 20; Length 509;
 XX Best Local Similarity 100.0%; Pred. No. 8.2e-11;
 XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX
 XX 540 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATCT 581
 QY ||||||||||||||||||||||||||||||||||||||||||||
 Db 450 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 409
 XX
 XX
 XX RESULT 23
 XX AAV80293
 XX ID AAV80293 standard; cDNA; 738 BP.
 XX
 XX AAV80293;
 XX
 XX 15-MAR-1999 (first entry)
 XX
 XX Human B7-2 extracellular domain and linker DNA.
 DE
 XX
 XX Tumour interacting protein; cancer; gene therapy; vector;
 KW 574 antigen; monoclonal antibody; single chain antibody;
 KW mouse; human; B7-2; co-stimulatory molecule; ss.
 XX
 XX Chimeric - Homo sapiens.
 OS Chimeric - synthetic.
 XX
 XX WO9855607-A2.
 XX
 XX 10-DEC-1998.
 PD
 XX
 XX 04-JUN-1998; 98WO-GB01627.
 PF

XX
 PR 04-JUL-1997; 97GB-0014230.
 PR 04-JUN-1997; 97GB-0011579.
 PR 20-JUN-1997; 97GB-0013150.
 XX
 XX (OXFO-) OXFORD BIOMEDICA UK LTD.
 XX
 XX Babbington CR, Carroll MW, Ellard FM, Kingsman SM;
 PI Myers KA;
 XX
 XX WPI: 1999-059910/05.
 XX
 XX P-PSDB; AAW86005.
 XX
 XX New vector encoding a tumour interacting protein for treating cancer
 PT - contains a desired nucleotide sequence and/or protein which
 PT recognises tumours, and is used as a gene delivery system to treat
 PT cancer
 XX
 XX Example 5; Fig 4; 82pp; English.
 XX
 XX This DNA sequence encodes a polypeptide (see AAW86005) comprising
 CC the extracellular domain (amino acids 1-215) of human co-stimulatory
 CC molecule B7-2 joined to a C-terminal flexible peptide linker. This
 CC is part of the coding sequence of B7-2.574.1 co-stimulatory domain,
 CC a DNA sequence encoding a fusion protein comprising the B7-2
 CC extracellular domain joined via the linker to an scFv (see AAW86002)
 CC derived from murine 574 monoclonal antibody. The cDNA can be
 CC inserted into vector pCI to allow expression of the fusion protein
 CC in mammalian cells. The trophoblast cell surface antigen defined
 CC by 574 is expressed at high levels on the cells of a wide variety
 CC of human tumours. The invention relates to a vector comprising a
 CC nucleotide sequence coding for a tumour interacting protein (TIP)
 CC and optionally a nucleotide sequence of interest (NOI) which
 CC encodes a protein of interest (POI), the vector being capable of
 CC delivering the NOI and/or POI to the tumour recognised by the TIP.
 CC Delivery can be in vivo or ex vivo. The vector is used to treat
 CC cancer, and may also be used as a gene delivery system for
 CC introducing at least 1 gene encoding a TIP (preferably a tumour
 CC binding protein) into a haematopoietic cell lineage. B7-2 is
 CC expected to bind specifically to CD28 and CTLA-4 present on human
 CC T-cells.
 CC
 XX
 XX Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;
 XX
 XX
 XX Query Match 3.9%; Score 33; DB 20; Length 738;
 XX Best Local Similarity 100.0%; Pred. No. 2.7e-06;
 XX Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX
 XX 391 TCAGTCTTGTCTAAGTCTGTCACCTGAAATA 423
 QY ||||||||||||||||||||||||||||||||||||||||||||
 Db 373 TCAGTCTTGTCTAAGTCTGTCACCTGAAATA 405
 XX
 XX
 XX RESULT 24
 XX AAF89731
 XX ID AAF89731 standard; DNA; 738 BP.
 XX
 XX AAF89731;
 XX
 XX 23-JUL-2001 (first entry)
 XX
 XX Nucleotide sequence of a B7-2.574.1 fusion protein.
 DE
 XX
 XX Single chain antibody; scFv; inflammatory disease; arthritis; cancer;
 KW hypersensitivity; autoimmune disease; central nervous system disorder;
 KW Parkinson's disease; periodontal disease; cardiopulmonary disease;
 KW cardiovascular disease; gastrointestinal disorder; infection; diabetes;
 KW Helicobacter-related disease; immune disorder; ss.
 XX
 XX Synthetic.
 OS
 OS Mus sp.
 OS Homo sapiens.
 XX

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 110.604 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840

Sequence: 1 atgatactcagatgcactat.....acaacagctactacacagttt 840

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published Applications -NA:*

- 1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
- 2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
- 3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
- 4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
- 5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
- 6: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUBCOMB.seq:*
- 7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
- 8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
- 9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
- 10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
- 11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
- 12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
- 13: /cgn2_6/ptodata/2/pubpna/US00_NEW_PUB.seq:*
- 14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	61	7.3	1080	US-09-303-510-5	Sequence 5, Appl1
2	61	7.3	1080	US-09-303-040-5	Sequence 5, Appl1
3	33	3.9	551	US-09-796-692-7817	Sequence 7817, Ap
4	33	3.9	598	US-09-796-692-7754	Sequence 7754, Ap
5	33	3.9	751	US-10-105-200A-34	Sequence 34, Appl1
6	33	3.9	831	US-09-845-899A-4	Sequence 4, Appl1
7	33	3.9	972	US-09-826-025-11	Sequence 11, Appl1
8	33	3.9	1002	US-10-105-200A-33	Sequence 11, Appl1
9	33	3.9	1056	US-09-756-983-17	Sequence 17, Appl1
10	33	3.9	1112	US-09-441-411-25	Sequence 25, Appl1
11	33	3.9	1120	US-08-592-711-3	Sequence 3, Appl1
12	33	3.9	1120	US-09-962-969-52	Sequence 22, Appl1
13	33	3.9	1120	US-09-837-867A-22	Sequence 22, Appl1
14	33	3.9	1161	US-09-962-969-24	Sequence 22, Appl1
15	33	3.9	1161	US-09-837-867A-24	Sequence 24, Appl1
16	33	3.9	1424	US-09-954-531-366	Sequence 366, App
17	33	3.9	1424	US-09-441-411-21	Sequence 21, Appl1
18	33	3.9	1424	US-09-962-436-556	Sequence 556, App
19	25	3.0	25	US-09-303-510-34	Sequence 34, Appl1

20	25	3.0	25	US-09-303-510-38	Sequence 38, Appl1
21	25	3.0	25	US-09-303-040-34	Sequence 34, Appl1
22	25	3.0	25	US-09-303-040-38	Sequence 38, Appl1
23	24	2.9	54	US-09-147-142-23	Sequence 23, Appl1
24	24	2.9	54	US-09-147-142-26	Sequence 26, Appl1
25	21	2.5	210	US-09-837-867A-31	Sequence 31, Appl1
26	21	2.5	210	US-09-837-867A-31	Sequence 31, Appl1
27	21	2.5	2577	US-09-529-063-71	Sequence 71, Appl1
28	21	2.5	2880	US-09-764-898-81	Sequence 81, Appl1
29	21	2.5	3013	US-09-764-898-260	Sequence 260, App
30	21	2.5	3088	US-09-529-063-72	Sequence 72, Appl1
31	21	2.5	3336	US-10-004-551-27	Sequence 27, Appl1
32	20	2.4	22	US-10-115-615-20	Sequence 20, Appl1
33	19	2.3	195	US-09-962-969-41	Sequence 41, Appl1
34	19	2.3	195	US-09-837-867A-41	Sequence 41, Appl1
35	19	2.3	4512	US-10-007-706-2	Sequence 2, Appl1
36	19	2.3	6220	US-10-007-706-3	Sequence 3, Appl1
37	18	2.1	471	US-09-864-761-2757	Sequence 2757, Ap
38	18	2.1	700	US-09-728-952-62	Sequence 62, Appl1
39	18	2.1	855	US-09-728-952-63	Sequence 63, Appl1
40	18	2.1	1454	US-09-957-708-14	Sequence 14, Appl1
41	18	2.1	3346	US-10-078-929-191	Sequence 191, App
42	18	2.1	15772	US-09-764-903-66	Sequence 66, Appl1
43	17	2.0	48	US-10-179-046-7	Sequence 7, Appl1
44	17	2.0	54	US-10-179-046-25	Sequence 25, Appl1
45	17	2.0	56	US-10-179-046-30	Sequence 30, Appl1
46	17	2.0	97	US-09-747-377-329	Sequence 329, App
47	17	2.0	155	US-09-535-459-909	Sequence 909, App
48	17	2.0	155	US-09-535-459-1103	Sequence 1103, Ap
49	17	2.0	184	US-09-864-761-17534	Sequence 17534, A
50	17	2.0	214	US-09-535-459-1062	Sequence 1062, Ap
51	17	2.0	247	US-09-535-459-1119	Sequence 1119, Ap
52	17	2.0	261	US-09-535-459-1074	Sequence 1074, Ap
53	17	2.0	278	US-09-960-335-9963	Sequence 9363, Ap
54	17	2.0	354	US-09-864-761-750	Sequence 750, App
55	17	2.0	390	US-10-179-046-13	Sequence 13, Appl1
56	17	2.0	400	US-08-781-986A-3856	Sequence 3856, Ap
57	17	2.0	408	US-09-918-995-37063	Sequence 37063, A
58	17	2.0	417	US-08-781-986A-4133	Sequence 4133, Ap
59	17	2.0	470	US-09-918-995-28601	Sequence 28601, A
60	17	2.0	484	US-09-796-692-9286	Sequence 9286, Ap
61	17	2.0	538	US-09-918-995-22471	Sequence 22471, A
62	17	2.0	563	US-09-864-761-13635	Sequence 13635, A
63	17	2.0	1151	US-09-962-969-20	Sequence 20, Appl1
64	17	2.0	1151	US-09-837-867A-20	Sequence 20, Appl1
65	17	2.0	1183	US-09-441-411-23	Sequence 23, Appl1
66	17	2.0	1261	US-09-962-969-12	Sequence 12, Appl1
67	17	2.0	1261	US-09-837-867A-12	Sequence 12, Appl1
68	17	2.0	1716	US-10-179-046-1	Sequence 1, Appl1
69	17	2.0	2892	US-09-938-842A-1073	Sequence 1073, Ap
70	17	2.0	7596	US-09-728-952-1	Sequence 1, Appl1
71	17	2.0	7972	US-08-781-986A-312	Sequence 312, App
72	17	2.0	8121	US-09-785-770A-14	Sequence 14, Appl1
73	17	2.0	11474	US-09-816-028A-1	Sequence 1, Appl1
74	17	2.0	11597	US-09-070-927A-222	Sequence 222, App
75	17	2.0	11598	US-10-091-572-887	Sequence 887, App
76	17	2.0	11600	US-10-091-572-888	Sequence 888, App
77	17	2.0	13824	US-09-764-877-3492	Sequence 1054, Ap
78	17	2.0	14654	US-09-764-860-1054	Sequence 1054, Ap
79	17	2.0	44888	US-09-988-113-42	Sequence 42, Appl1
80	17	2.0	44888	US-09-776-878A-42	Sequence 42, Appl1
81	17	2.0	74566	US-09-781-558-3	Sequence 3, Appl1
82	16	1.9	21	US-09-303-040-27	Sequence 27, Appl1
83	16	1.9	21	US-09-303-040-27	Sequence 27, Appl1
84	16	1.9	237	US-09-796-692-9507	Sequence 9507, Ap
85	16	1.9	252	US-09-878-57A-15536	Sequence 15536, Ap
86	16	1.9	266	US-09-923-876-1452	Sequence 1452, Ap
87	16	1.9	270	US-09-878-57A-12418	Sequence 12418, A
88	16	1.9	292	US-09-215-652-12	Sequence 12, Appl1
89	16	1.9	347	US-09-796-692-8262	Sequence 8262, Ap
90	16	1.9	359	US-09-974-300-4578	Sequence 4578, Ap
91	16	1.9	389	US-09-960-335-1567	Sequence 1567, Ap
92	16	1.9	400	US-09-918-995-16771	Sequence 16771, A

GenCore version 5.1.4-p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 40.2818 Seconds

(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-19

Perfect score: 840

Sequence: 1 atgtatctcagatgcactat.....acaacagctacacagttt 840

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 seqs, 153338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : Issued Patents NA: *
1: /cgn2_6/prodata/1/lna/5A.COMB.seq: *
2: /cgn2_6/prodata/1/lna/5B.COMB.seq: *
3: /cgn2_6/prodata/1/lna/6A.COMB.seq: *
4: /cgn2_6/prodata/1/lna/6B.COMB.seq: *
5: /cgn2_6/prodata/1/lna/PCTUS.COMB.seq: *
6: /cgn2_6/prodata/1/lna/Backfile1.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

Result No.	Score	Query Match	Length	ID	Description
1	33	3.9	751	4	US-09-039-982A-34
2	33	3.9	751	4	US-09-039-641-34
3	33	3.9	751	4	US-09-039-762A-34
4	33	3.9	751	4	US-09-042-492D-34
5	33	3.9	751	4	US-08-913-612A-34
6	33	3.9	972	4	US-08-848-760B-11
7	33	3.9	1002	4	US-09-039-982A-33
8	33	3.9	1002	4	US-09-039-641-33
9	33	3.9	1002	4	US-09-039-762A-33
10	33	3.9	1002	4	US-09-042-492D-33
11	33	3.9	1002	4	US-08-913-612A-33
12	33	3.9	1120	2	US-08-456-104-1
13	33	3.9	1120	2	US-08-101-62A-1
14	33	3.9	1120	2	US-08-479-744A-1
15	33	3.9	1120	3	US-08-280-757B-1
16	33	3.9	1120	3	US-08-205-697A-22
17	33	3.9	1120	4	US-08-702-525-22
18	33	3.9	1120	4	US-08-403-253A-3
19	33	3.9	1120	5	PCT-US95-02576-22
20	33	3.9	1161	4	US-08-205-697A-24
21	33	3.9	1161	4	US-08-702-525-24
22	33	3.9	1161	5	PCT-US95-02576-24
23	33	3.9	1424	4	US-09-326-186B-226
24	33	3.9	1428	5	PCT-US94-10261A-22
25	32	3.8	330	3	US-08-479-744A-44
26	32	3.8	330	3	US-08-280-757B-44
27	27	3.2	28	2	US-08-859-998-601

28	27	3.2	28	4	US-09-225-928-601	Sequence 601, App
29	24	2.9	62	3	US-08-479-744A-53	Sequence 53, Appl
30	24	2.9	62	3	US-08-280-757B-53	Sequence 53, Appl
31	24	2.9	63	3	US-08-479-744A-52	Sequence 52, Appl
32	24	2.9	63	3	US-08-280-757B-52	Sequence 52, Appl
33	24	2.9	306	3	US-08-479-744A-46	Sequence 46, Appl
34	24	2.9	306	3	US-08-280-757B-46	Sequence 46, Appl
35	21	2.5	210	4	US-08-205-697A-31	Sequence 31, Appl
36	21	2.5	210	4	US-08-702-525-31	Sequence 31, Appl
37	21	2.5	210	5	PCT-US95-02576-31	Sequence 31, Appl
38	20	2.4	20	4	US-09-326-186B-186	Sequence 186, App
39	20	2.4	195	4	US-09-326-186B-188	Sequence 188, App
40	19	2.3	195	4	US-08-205-697A-41	Sequence 41, Appl
41	19	2.3	195	4	US-08-702-525-41	Sequence 41, Appl
42	19	2.3	195	5	PCT-US95-02576-41	Sequence 41, Appl
43	18	2.1	18	2	US-08-585-664B-2598	Sequence 2598, App
44	18	2.1	18	2	US-09-038-073-2598	Sequence 2598, App
45	17	2.0	54	3	US-09-029-267-7	Sequence 7, Appl
46	17	2.0	54	3	US-09-029-267-25	Sequence 25, Appl
47	17	2.0	56	3	US-09-029-267-30	Sequence 30, Appl
48	17	2.0	187	4	US-09-280-116-170	Sequence 170, App
49	17	2.0	219	6	5217896-6	Patent No. 5217896
50	17	2.0	390	3	US-09-028-267-13	Sequence 13, Appl
51	17	2.0	1151	2	US-08-456-104-3	Sequence 3, Appl
52	17	2.0	1151	4	US-08-205-697A-20	Sequence 20, Appl
53	17	2.0	1151	4	US-08-702-525-20	Sequence 20, Appl
54	17	2.0	1151	5	PCT-US95-02576-20	Sequence 20, Appl
55	17	2.0	1163	3	US-08-479-744A-22	Sequence 22, Appl
56	17	2.0	1163	3	US-08-280-757B-22	Sequence 22, Appl
57	17	2.0	1261	4	US-08-205-697A-12	Sequence 12, Appl
58	17	2.0	1261	4	US-08-702-525-12	Sequence 12, Appl
59	17	2.0	1261	5	PCT-US95-02576-12	Sequence 12, Appl
60	17	2.0	1492	3	US-08-350-468-7	Sequence 7, Appl
61	17	2.0	1716	3	US-09-029-267-1	Sequence 1, Appl
62	17	2.0	2885	1	US-08-920-812-4	Sequence 4, Appl
63	17	2.0	2885	1	US-08-920-812-4	Sequence 4, Appl
64	17	2.0	2885	1	US-08-921-177-4	Sequence 4, Appl
65	17	2.0	2885	1	US-08-362-577C-4	Sequence 4, Appl
66	17	2.0	2885	2	US-08-920-812-4	Sequence 4, Appl
67	17	2.0	19011	1	US-08-310-356-16	Sequence 16, Appl
68	17	2.0	19557	5	PCT-US92-06300-1	Sequence 1, Appl
69	16	1.9	18	2	US-08-585-664B-2586	Sequence 2586, App
70	16	1.9	18	4	US-09-038-073-2586	Sequence 2586, App
71	16	1.9	270	1	US-08-127-954-54	Sequence 54, Appl
72	16	1.9	270	1	US-08-127-954-55	Sequence 55, Appl
73	16	1.9	270	1	US-08-127-954-56	Sequence 56, Appl
74	16	1.9	270	1	US-08-127-954-57	Sequence 57, Appl
75	16	1.9	270	1	US-08-127-954-58	Sequence 58, Appl
76	16	1.9	270	1	US-08-127-954-59	Sequence 59, Appl
77	16	1.9	270	1	US-08-127-954-60	Sequence 60, Appl
78	16	1.9	270	1	US-08-127-954-61	Sequence 61, Appl
79	16	1.9	270	1	US-08-127-954-62	Sequence 62, Appl
80	16	1.9	571	4	US-09-404-879A-82	Sequence 82, Appl
81	16	1.9	1255	4	US-09-119-476-75	Sequence 75, Appl
82	16	1.9	1392	4	US-09-130-016-171	Sequence 171, Appl
83	16	1.9	1437	4	US-09-134-001C-2228	Sequence 2228, App
84	16	1.9	1443	2	US-08-454-557C-13	Sequence 13, Appl
85	16	1.9	1443	2	US-08-340-426D-13	Sequence 13, Appl
86	16	1.9	1443	2	US-08-450-673C-13	Sequence 13, Appl
87	16	1.9	1443	2	PCT-US95-17111A-13	Sequence 13, Appl
88	16	1.9	1523	4	US-09-130-616-172	Sequence 172, App
89	16	1.9	1563	4	US-09-292-858B-11	Sequence 11, Appl
90	16	1.9	1619	4	US-09-130-616-173	Sequence 173, App
91	16	1.9	1780	5	PCT-US94-12913A-17	Sequence 17, Appl
92	16	1.9	1782	3	US-09-209-668-16	Sequence 16, Appl
93	16	1.9	1782	4	US-09-130-616-169	Sequence 169, App
94	16	1.9	1994	3	US-08-600-882-22	Sequence 22, Appl
95	16	1.9	2499	5	PCT-US94-10261A-22	Sequence 22, Appl
96	16	1.9	2499	1	US-08-485-618-96	Sequence 96, Appl
97	16	1.9	2499	1	US-08-605-672-96	Sequence 96, Appl
98	16	1.9	2499	2	US-08-482-293A-96	Sequence 96, Appl
99	16	1.9	2499	2	US-08-943-363-96	Sequence 96, Appl
100	16	1.9	2499	4	US-09-193-043-96	Sequence 96, Appl

ALIGNMENTS

```
RESULT 1
US-09-039-982A-34
; Sequence 34, Application US/09039982A
; Patent No. 6225042
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR ACTIVATION OF T-CELL
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hiertl, Ltd.
; STREET: 20 No. 6225042th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,982A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: T5R14710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: CDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-09-039-982A-34

Query Match          3.9%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCAAGTCAACCTGAATA 423
DB 397 TCAGTCTTGTCTAAGTCAAGTCAACCTGAATA 429

RESULT 2
US-09-039-641-34
; Sequence 34, Application US/09039641
; Patent No. 6251627
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR
; ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 45
```

```
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hiertl, Ltd.
; STREET: 20 No. 6251627th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,641
; FILING DATE: 8-MAR-1995
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: T5R14710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: CDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-09-039-641-34

Query Match          3.9%; Score 33; DB 4; Length 751;
Best Local Similarity 100.0%; Pred. No. 5.9e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 391 TCAGTCTTGTCTAAGTCAAGTCAACCTGAATA 423
DB 397 TCAGTCTTGTCTAAGTCAAGTCAACCTGAATA 429

RESULT 3
US-09-039-762A-34
; Sequence 34, Application US/09039762A
; Patent No. 6255073
; GENERAL INFORMATION:
; APPLICANT: Cal, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS
; FOR ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hiertl, Ltd.
; STREET: 20 No. 6255073th Wacker Drive, 36th Floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,762A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
```

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 1574.63 Seconds

(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-19

Sequence: 1 atgtatccagatgcactat.....acaacagctacacagcttt 840

Scoring table: OLIGO-NWC
Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

EST:*
1: em_estba:*
2: em_esthum:*
3: em_estlin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_estc:*
9: gb_est1:*
10: gb_est2:*
11: gb_hlc:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estlum:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_fod:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	44	5.2	448	9	AA056906 EST224R.P
2	33	3.9	655	13	B1824940 B03032554
3	33	3.9	709	14	B0109553 B0109553
4	33	3.9	753	13	B1906246 B03063172
5	22	2.6	578	13	BM089797 503647 MA
6	21	2.5	211	14	N98388 za71h02.r1

7	21	2.5	227	9	A1424694
8	21	2.5	243	9	A1418705
9	21	2.5	258	9	A1208150
10	21	2.5	299	12	BG197470
11	21	2.5	312	12	BG185108
12	21	2.5	335	9	A1240804
13	21	2.5	336	12	BG190424
14	21	2.5	338	12	AW901615
15	21	2.5	338	12	BG192964
16	21	2.5	344	9	A1990186
17	21	2.5	345	12	BG193509
18	21	2.5	347	12	BG001664
19	21	2.5	358	10	AW901624
20	21	2.5	370	10	AW901623
21	21	2.5	378	9	AA973397
22	21	2.5	380	10	AW901617
23	21	2.5	390	9	A1027674
24	21	2.5	391	9	A1632116
25	21	2.5	392	9	AA748416
26	21	2.5	393	9	A1435323
27	21	2.5	397	12	BG202649
28	21	2.5	399	12	BG184062
29	21	2.5	400	12	BG196006
30	21	2.5	404	12	BG194842
31	21	2.5	405	12	BG194484
32	21	2.5	405	12	BG199567
33	21	2.5	406	9	A1559219
34	21	2.5	406	12	BG192422
35	21	2.5	409	12	BG186104
36	21	2.5	409	12	BG209496
37	21	2.5	412	12	BG185632
38	21	2.5	414	12	BG190905
39	21	2.5	414	12	BG192421
40	21	2.5	414	12	BG194011
41	21	2.5	414	12	BG200091
42	21	2.5	414	12	BG220897
43	21	2.5	415	12	BG191385
44	21	2.5	415	12	BG214212
45	21	2.5	416	12	BG211011
46	21	2.5	416	12	BG211511
47	21	2.5	417	12	BG214715
48	21	2.5	418	12	BG197469
49	21	2.5	419	12	BG206317
50	21	2.5	421	12	BG188790
51	21	2.5	421	12	BG207334
52	21	2.5	422	12	BG182497
53	21	2.5	422	12	BG183017
54	21	2.5	423	12	BG215816
55	21	2.5	424	12	BG194483
56	21	2.5	425	12	BG183018
57	21	2.5	425	12	BG220420
58	21	2.5	426	10	AW168820
59	21	2.5	431	12	BG221377
60	21	2.5	431	12	N26833
61	21	2.5	433	14	BG216890
62	21	2.5	435	9	AA836228
63	21	2.5	435	12	BG220419
64	21	2.5	436	9	A1018441
65	21	2.5	440	9	A1362266
66	21	2.5	442	12	BG220898
67	21	2.5	443	9	A1123425
68	21	2.5	444	10	AA440534
69	21	2.5	444	14	N64336
70	21	2.5	445	9	AA243790
71	21	2.5	457	12	BG199029
72	21	2.5	458	12	BG193508
73	21	2.5	459	12	BG185634
74	21	2.5	461	10	AW510652
75	21	2.5	465	12	BG218537
76	21	2.5	468	10	AW173172
77	21	2.5	468	10	AW173172
78	21	2.5	468	10	AW173172
79	21	2.5	468	10	AW173172

```

80      21      2.5      470      14      B0029054      UI-H-DT0-
81      21      2.5      473      9      A1088713      9A12401.x
82      21      2.5      473      12      BP222484      7p53a02.x
83      21      2.5      474      9      A1264250      qk20a08.x
84      21      2.5      474      9      A1421543      tt26c08.x
85      21      2.5      474      9      A1804063      tc60h02.x
86      21      2.5      478      10      AM572903      hf17c08.x
87      21      2.5      480      9      A1750143      at27h10.x
88      21      2.5      481      9      A1769012      wq31f01.x
89      21      2.5      481      12      B6318952      RST38700
90      21      2.5      489      9      A1232134      qm89g01.x
91      21      2.5      489      9      A1889922      wm65b05.x
92      21      2.5      491      9      A1334030      qg18c11.x
93      21      2.5      496      10      AM516826      xq04h01.x
94      21      2.5      499      10      AM051810      w203q07.x
95      21      2.5      505      9      A1769172      qg34g05.x
96      21      2.5      505      12      BP439216      nab61b03
97      21      2.5      507      10      AM991229      RDEV152.H
98      21      2.5      512      9      AA056905      EST224F.P
99      21      2.5      513      12      BF197202      7m87f11.x
100     21      2.5      520      13      BM504702      1g89d07.x

```

ALIGNMENTS

```

RESULT 1
AA056906      448 bp      mRNA      linear      EST 18-SRP-1996
LOCUS
DEFINITION
EST224R Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 reverse similar to L25259 CT1A4
Counter-receptor, human, mRNA sequence.

```

```

ACCESSION
AA056906
VERSION
AA056906.1
GI:1549546
SOURCE
EST.

```

ORGANISM

```

Sus scrofa
Mammalia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE
1 (bases 1 to 448)
Tuglie,C.K., Mahls,S. and Schmitz,C.

```

```

TITLE
Expressed Sequence Tags from Pig Spleen

```

```

JOURNAL
Unpublished (1996)

```

```

COMMENT
Contact: Tuglie CK

```

```

Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuglie@iastate.edu

```

```

PCR Primers
FORWARD: TGCGCAGCAGCTCCTG
BACKWARD: GACCGCGCTCAGCT
Insert Length: 950 Std Error: 50.00
Seq primer: GACCGCGCTCAGCT.

```

```

FEATURES
location/Qualifiers

```

```

1..448
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone_lib="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (drr) primed"

```

```

BASE COUNT      126 a      116 c      89 g      116 t      1 others
ORIGIN

```

```

Query Match      5.2%; Score 44; DB 9; Length 448;
Best Local Similarity 100.0%; Pred. No. 1.2e-13;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

OY      381 TTTCGACCTATCAGTCTGTCTACTTCAGTCAACCTGAATATA 424

```

```

DB      346 TTCTGACCTATCAGTCTGTCTACTTCAGTCAACCTGAATATA 389

```

RESULT 2

```

BI824940
LOCUS
DEFINITION
603032554F1 NIH_MGC_115 Homo sapiens cDNA clone IMAGE:5173789 5',
mRNA sequence.

```

```

ACCESSION
BI824940
VERSION
BI824940.1
GI:15936490
SOURCE
human.

```

ORGANISM

```

Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

```

REFERENCE
1 (bases 1 to 655)
NIH-MGC http://mgc.ncl.nih.gov/.

```

```

AUTHORS
National Institutes of Health, Mammalian Gene Collection (MGC)

```

```

TITLE
Unpublished (1999)

```

```

JOURNAL

```

```

COMMENT
Contact: Robert Strausberg, Ph.D.
Email: cga@bbs-remail.nih.gov

```

```

Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LMNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LMNL at:
http://image.llnl.gov

```

```

Plate: LLM11432 row: 1 column: 14
High quality sequence start: 27
High quality sequence stop: 653.

```

FEATURES

```

source

```

```

1..655
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
/note="Organ: pooled brain, lung, testis; Vector:
PCMV-SPORE; Site: 1: NotI; Site 2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; 1
male lung, age 27; and 1 male testis, age 69. Library is
oligo-drr primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
021. Note: this is a NIH-MGC library."

```

```

BASE COUNT      194 a      147 c      145 g      169 t
ORIGIN

```

```

Query Match      3.9%; Score 33; DB 13; Length 655;
Best Local Similarity 100.0%; Pred. No. 3e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

OY      391 TCAGTCTTGTCTAAGTCTCAGTCAACCTGAATATA 423
DB      538 TCAGTCTTGTCTAAGTCTCAGTCAACCTGAATATA 570

```

RESULT 3

```

BQ109553
LOCUS
DEFINITION
IMAGE:5218562 5', mRNA sequence.

```

```

ACCESSION
BQ109553
VERSION
BQ109553.1
GI:20159207
SOURCE
human.

```

```

Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

```

```

IMAGE:5218562 5', mRNA sequence.

```

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 2889.24 Seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996
Sequence: 1 atgggcatttggcagcagc.....acaaagactacacattt 996

Scoring table: OLIGO_NWC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pin:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vit:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	996	100.0	2830	4	AY007704
2	948	95.2	1138	4	AF157827
3	948	95.2	1270	4	AB030652
4	61	6.1	1795	4	AF106827
5	61	6.1	1897	4	AF106826
6	40	4.0	994	4	PICD86C
7	40	4.0	994	4	AX027016
8	39	3.9	924	4	BTA291475
9	33	3.3	738	6	AX002781
10	33	3.3	738	6	AX149548
11	33	3.3	751	6	AR147737
12	33	3.3	751	6	AR159759
13	33	3.3	751	6	AR160451
14	33	3.3	751	6	AR202407
15	33	3.3	972	6	AX027005
16	33	3.3	1002	6	AR147736
17	33	3.3	1002	6	AR159758
18	33	3.3	1002	6	AR160450
19	33	3.3	1002	6	AR202406
20	33	3.3	1044	9	AF344851
21	33	3.3	1048	9	AF344857
22	33	3.3	1062	9	AF344840
23	33	3.3	1062	9	AF344861
24	33	3.3	1112	9	HUMB72A
25	33	3.3	1120	6	AR030780
26	33	3.3	1120	6	AR112747
27	33	3.3	1120	6	AR146413
28	33	3.3	1120	6	AR196804
29	33	3.3	1120	6	AX047043
30	33	3.3	1161	6	AR146414
31	33	3.3	1424	6	AR178980
32	33	3.3	1424	6	AX330924
33	33	3.3	1424	6	AX332506
34	33	3.3	1424	6	HSU04343
35	33	3.3	2205	6	AX188198
36	30	3.0	195	6	AR146423
37	37	3.0	1156	4	RABCD86B
38	28	2.8	420	10	MMB72G07
39	28	2.8	930	6	AX027012
40	28	2.8	984	10	AF065897
41	28	2.8	984	10	AF065898
42	28	2.8	984	10	AF065899
43	28	2.8	984	10	AF065900
44	28	2.8	1115	10	S70108
45	28	2.8	1151	6	AR030781
46	28	2.8	1151	6	AR146412
47	28	2.8	1163	6	AR112764
48	28	2.8	1183	10	MUSB72X
49	28	2.8	1261	6	AR146408
50	28	2.8	2528	10	BC013807
51	28	2.8	67483	2	AC117662
52	27	2.7	28	6	AR090481
53	27	2.7	28	6	AR197516
54	27	2.7	306	6	AR112784
55	27	2.7	737	9	HSB72S5
56	27	2.7	901	9	AF344836
57	27	2.7	164161	9	AC068630
58	24	2.4	62	6	AR112790
59	24	2.4	63	6	AR112789
60	23	2.3	330	6	AR112783
61	23	2.3	449	10	RNU31330
62	23	2.3	741	9	HSB7284
63	23	2.3	942	6	E14273
64	23	2.3	942	10	D50558
65	23	2.3	186866	2	AC106085

66	2.2	66325	2	AC016425	Homo sapi
67	2.2	75974	2	AC090991	Homo sapi
68	2.2	81323	2	AC099244	Rattus no
69	2.2	94203	2	AC023907	Rattus no
70	2.2	98469	2	AC010936	Homo sapi
71	2.2	171124	2	AC107124	Rattus no
72	2.2	175122	2	AC111364	Rattus no
73	2.2	175785	2	AC112593	Rattus no
74	2.2	208230	2	AC090651	Homo sapi
75	2.2	221789	2	AC115967	Mus muscu
76	2.2	262549	2	AC113623	Rattus no
77	2.1	133	4	AF222915	Sus scrof
78	2.1	505	6	AX153653	Sequence
79	2.1	1546	8	AX054163	Arabidops
80	2.1	1649	8	AF428395	Arabidops
81	2.1	53785	2	AC099866	Mus muscu
82	2.1	53785	2	AC099866	Mus muscu
83	2.1	75803	8	AB016890	Arabidops
84	2.1	91448	9	AL672061	Human DNA
85	2.1	103610	9	HS072408	Human DNA
86	2.1	149810	2	AL691455	Homo sapi
87	2.1	158647	2	AC103495	Rattus no
88	2.1	159020	9	AL450307	Human DNA
89	2.1	163584	2	AC127843	Rattus no
90	2.1	166384	2	AC113446	Mus muscu
91	2.1	167469	2	AC113882	Rattus no
92	2.1	174662	2	AC026036	Homo sapi
93	2.1	177552	2	AC099361	Rattus no
94	2.1	181842	2	AL391823	Homo sapi
95	2.1	185574	2	AC128374	Rattus no
96	2.1	205221	2	AC115723	Mus muscu
97	2.1	226040	2	AC124414	Mus muscu
98	2.0	20	6	AB178763	Sequence
99	2.0	20	6	AB178942	Sequence
100	2.0	22	6	AX088416	Sequence

ALIGNMENTS

RESULT 1
AY007704 2830 bp mRNA linear MAM 03-OCT-2001
LOCUS
DEFINITION
Felis catus CD86 (CD86) mRNA, complete cds.
ACCESSION
AY007704.1 GI:15418725
VERSION
KEYWORDS
SOURCE
ORGANISM
Felis catus.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE
1 (bases 1 to 2830)
Yang, S., Sellins, K.S., Powell, T., Stoneman, E. and Sim, G. K.
Novel transcripts encoding secreted forms of feline CD80 and CD86
costimulatory molecules
JOURNAL
MEDLINE
21390213
PUBMED
11498243
Vet. Immunol. Immunopathol. 81 (1-2), 15-21 (2001)
REFERENCE
AUTHORS
2 (bases 1 to 2830)
Yang, S.
TITLE
Direct Submission
JOURNAL
Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
Prospect Parkway, Ft Collins, CO 80525, USA
FEATURES
Source
1..2830
Location/Qualifiers
/organism="Felis catus"
/db_xref="taxon:9685"
1..2830
/gene="CD86"
179..1177
/gene="CD86"
/note="CD28/CTLA4 counter receptor; B7-2 protein"
/codon_start=1

Query Match	100.0%	Score 996:	DB 4:	Length 2830:	Best Local Similarity 100.0%:	Pred. No. 0:	Mismatches 0:	Indels 0:	Gaps 0:
Matches 996:	Conservative 0:	Mismatches 0:	Indels 0:	Gaps 0:					
QY 1	ATGGGCAATTTGTGACAGACACTATGAGCTGATGCTCTCTGTGATGCGCTCTG	60							
DB 179	ATGGGCAATTTGTGACAGACACTATGAGCTGATGCTCTCTGTGATGCGCTCTG	238							
QY 61	CTCTCTGCTGCT	120							
DB 239	CTCTCTGCTGCT	298							
QY 121	TGCCATTTTCAAAACCTCTCAAAACATTAAGCTGATGAGCTGATGATTTTGGCAGAC	180							
DB 299	TGCCATTTTCAAAACCTCTCAAAACATTAAGCTGATGAGCTGATGATTTTGGCAGAC	358							
QY 181	CAGGATAGCTGCT	240							
DB 359	CAGGATAGCTGCT	418							
QY 241	CTCAAAATATAGGCGGCTGACACTTTGACAGAGACAGGAGCGCTGAGCTCCAGAT	300							
DB 419	CTCAAAATATAGGCGGCTGACACTTTGACAGAGACAGGAGCGCTGAGCTCCAGAT	478							
QY 301	GTTTCAGATCAAGGACAGGAGGACATATCACTGTTTCATTTATTAAGGCGCCAAAGA	360							
DB 479	GTTTCAGATCAAGGACAGGAGGACATATCACTGTTTCATTTATTAAGGCGCCAAAGA	538							
QY 361	CTAGTTCCTCATGACCAAAATGAGTTCGACCTTCAGCTGCTGCTCTCTCTCTCTCTCT	420							
DB 539	CTAGTTCCTCATGACCAAAATGAGTTCGACCTTCAGCTGCTGCTCTCTCTCTCTCTCT	598							
QY 421	GAATATACAGTACT	480							
DB 599	GAATATACAGTACT	658							
QY 481	TCTATACAGGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACACTGGAATTCA	540							
DB 659	TCTATACAGGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACACTGGAATTCA	718							
QY 541	ACTACTAGATATATATCTGTCATGAGAAATCTCAAAATATATGTGACACACTGTACAC	600							
DB 719	ACTACTAGATATATATCTGTCATGAGAAATCTCAAAATATATGTGACACACTGTACAC	778							
QY 601	GTTTCATACGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCC	660							
DB 779	GTTTCATACGCTTGCCTTTTTCAGTCCCTGAAGCACAATGTGAGCGCTTTTGTGCC	838							
QY 661	CTGAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATATAGATGACAACT	720							
DB 839	CTGAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATATAGATGACAACT	898							
QY 721	AAGGATTAAGACCTTGAACAGGCGCACTTCTCTGATGCGGCTTACTTTGATGTTT	780							
DB 899	AAGGATTAAGACCTTGAACAGGCGCACTTCTCTGATGCGGCTTACTTTGATGTTT	958							
QY 781	GTTGTTTTTTTGTGAGATGGGCTTTTAAACACTTAAGGAAAAGAAAGAGAGCGCT	840							
DB 959	GTTGTTTTTTTGTGAGATGGGCTTTTAAACACTTAAGGAAAAGAAAGAGAGCGCT	1018							
QY 841	GGCCCTCTCTCATGATGTGAACCATCAAAAGGAGAGAAAAGAGACAAAGACCAAC	900							


```

Db 1019 GGGCCCTCTCATGAATGTGAACCAACAAAGGAGAGAAAGAGAGCAAC 1078
OY 901 GAAAGAGTACCATACACGACCTGAGATGATGAGAGCCAGTGTATACATTTTG 960
Db 1079 GAAAGAGTACCATACACGACCTGAGATGATGAGAGCCAGTGTATACATTTTG 1138
OY 961 AAGACAGCCTCAAGGAGCAAAAGTACTACACATTTT 996
Db 1139 AAGACAGCCTCAAGGAGCAAAAGTACTACACATTTT 1174

RESULT 2
AF157827 1138 bp mRNA linear MAM 08-MAY-2000
LOCUS AF157827
DEFINITION Felis catus CD86 antigen (CD86) mRNA, complete cds.
ACCESSION AF157827
VERSION AF157827.1 GI:5381423
KEYWORDS
SOURCE Felis catus.
ORGANISM Felis catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE
1 (bases 1 to 1138)
AUTHORS Choi, I.-S., Hash, S.M., Winslow, B.J. and Collisson, E.W.
TITLE Sequence analyses of feline B7 costimulatory molecules
JOURNAL Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
MEDLINE 10713336
PUBMED 10713336
REFERENCE
2 (bases 1 to 1138)
AUTHORS Choi, I.-S., Hash, S., Winslow, B.J. and Collisson, E.W.
TITLE Direct Submission
JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M
University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA
FEATURES
source
1. .1138
/organism="Felis catus"
/db_xref="taxon:9685"
1. .1138
/gene="CD86"
63. .1052
/gene="CD86"
/feature="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"
/protein_id="AAD42974.1"
/db_xref="GI:5381424"
/translacion="MGICDSTMGSLHTLLVALLISVSMKSAVFNKTELPCHFT
NSQNSISLDELVFWQDOKLVLEYETFRKENPQNVHLKGTSPDKDNWLRHLNVO
IKDKGTYHCFIHKGPGLVPMHOMSSDLSVLANSOPEIIVTSRNTENSGIINITS
SIOGYPEPEMYFOLNTENSTKYDTVMKSONNVTLEYNVSISLPSVPEAHNVSV
CALKLETEMLISLPNTIDAOKRDKDPROGHIWIAVLMVYVPCGAVSPKTLARKK
KKQPGPSHECEIRKEREKSKOTNERVYHNPERSDEACVAILKTASGDKNQ"
BASE COUNT 358 a 245 c 246 g 289 t
ORIGIN
Query Match 95.2%; Score 948; DB 4; Length 1138;
Best local similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 ATGGGCAATTTGTGACAGCACTATGGAGCTGAGTACACACTCTCTTGATGCGCCCTCTG 60
Db 63 ATGGGCAATTTGTGACAGCACTATGGAGCTGAGTACACACTCTCTTGATGCGCCCTCTG 122
OY 61 CTCTCGGTGTTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGGAGACTGCCA 120
Db 123 CTCTCGGTGTTCTTCATGAAGAGTCAAGCATATTTTCAACAAGACTGGAGACTGCCA 182
OY 121 TGGCATTTTTCAAACTCTCAAAACATTAAGCCTGATGAGCTGTAGTATTTTGGCAGGAC 180
Db 183 TGGCATTTTTCAAACTCTCAAAACATTAAGCCTGATGAGCTGTAGTATTTTGGCAGGAC 242
OY 181 CAGGATTAAGCTGTCTGTATGAGATTTTCAGAGGCAAAAGAACCTCAAAATGTTTCA 240

```

```

Db 243 CAGGATTAAGCTGTCTGTATGAGATTTTCAGAGGCAAAAGAACCTCAAAATGTTTCA 302
OY 241 CTCAATTAAGGCGCCGTCACAGCTTTGACAGAGACACCTGGACCTGAGCTCCAAAT 300
Db 303 CTCAATTAAGGCGCCGTCACAGCTTTGACAGAGACACCTGGACCTGAGCTCCAAAT 362
OY 301 GTTCGATCAAGAGCAAGGACATATACATGTTTCATCTTATTAAGGAGCCCAAGGA 360
Db 363 GTTCGATCAAGAGCAAGGACATATACATGTTTCATCTTATTAAGGAGCCCAAGGA 422
OY 361 CTAGTCCCATGACACCAATGATGTTCTGACCTATACATGCTTGTCTTACCTTCAACT 420
Db 423 CTAGTCCCATGACACCAATGATGTTCTGACCTATACATGCTTGTCTTACCTTCAACT 482
OY 421 GAAATTAAGTAACTCTTAATTAAGAACAAATTTCTGGCATCATTAATTTTGACCTGCTCA 480
Db 483 GAAATTAAGTAACTCTTAATTAAGAACAAATTTCTGGCATCATTAATTTTGACCTGCTCA 542
OY 481 TCTATACAGGTTACCCGAACTAAGAGATGATTTTTCAGTAAACACTGAGAAATTTCA 540
Db 543 TCTATACAGGTTACCCGAACTAAGAGATGATTTTTCAGTAAACACTGAGAAATTTCA 602
OY 541 ACTACTAAGTATGATTAATGATGATGATGAAGAAATCTCAAAATATGAGAGAACTGTACAC 600
Db 603 ACTACTAAGTATGATTAATGATGATGATGAAGAAATCTCAAAATATGAGAGAACTGTACAC 662
OY 601 GTTTCATACAGCTGCTGCTTTTTCAGTCCCTGACAGACACAAATGTGAGCGCTTTTGACC 660
Db 663 GTTTCATACAGCTGCTGCTTTTTCAGTCCCTGACAGACACAAATGTGAGCGCTTTTGACC 722
OY 661 CTGAAGCTGAGACACCTGAGATGATGCTGCTCCCTACCTTCATTAATGATGACACACT 720
Db 723 CTGAAGCTGAGACACCTGAGATGATGCTGCTCCCTACCTTCATTAATGATGACACACT 782
OY 721 AAGATTAAGACCTGAGATGATGCTGCTCCCTACCTTCATTAATGATGACACACT 780
Db 783 AAGATTAAGACCTGAGATGATGCTGCTCCCTACCTTCATTAATGATGACACACT 842
OY 781 GTTGTCTTTTGTGGATGATGCTGCTTTTAAACACTAAGAGAAAGAGAAACACACT 840
Db 843 GTTGTCTTTTGTGGATGATGCTGCTTTTAAACACTAAGAGAAAGAGAAACACACT 902
OY 841 GGCCCTCTCATGAATGTGAACCACTCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 900
Db 903 GGCCCTCTCATGAATGTGAACCACTCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 962
OY 901 GAAAGATTAACATACACGATCTGAGAGATCTGATGAAGGCCAGGTG 948
Db 963 GAAAGATTAACATACACGATCTGAGAGATCTGATGAAGGCCAGGTG 1010

RESULT 3
AB030652 1270 bp mRNA linear MAM 01-MAR-2001
LOCUS AB030652
DEFINITION Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION AB030652.1 GI:9796387
KEYWORDS B-lymphocyte activation antigen B7-2 (CD86).
SOURCE Felis catus peripheral blood mononuclear cell cDNA to mRNA.
ORGANISM Felis catus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
REFERENCE
1 (sites)
AUTHORS Nishimura, Y., Shimojima, M., Miyazawa, T., Sato, E., Nakamura, K.,
Izumiya, Y., Ikeda, Y., Mikami, T. and Takahashi, E.
TITLE Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA4-Ig
JOURNAL Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
MEDLINE 20485322
REFERENCE 2 (bases 1 to 1270)

```

CTT TC;ACATGGTATGTCATGTAAGAAATCTCAAAATAATGTGACAGAACTGTACAAAC 800

QYEPKEMFLKJENSSIKYDIWMKKSQNNVTELYNSISLSFSVPEASNSVIFC
VIQJESMKT.PSIPYNTETNKVERKESQTKERYBRYHETTERSDAOCYNISKTASCDNS

```

/translation="MYLRCSMELNNILFWTLLIGASMSQAFENKTGELPCHFT
SÖNLSLBEVLVFMQDQDLVLEYELRGKEPNVHKKYGRSPKDWTLRLNLIQ
KDKGIYQCFVHHKQPKGLVPMHOMSDLSLANFSQPELWTSNTEMSGILNLTCS
IÖGPEPEMFELKTENSSTKYDTVMKSÖNNVLEWVLSISFVSGLANSISFC
VLÖESKMLBSPINILITNKVERKESEÖTKERVRHETERSDQAOVIASTAGDMS

```

3'UTR TTOP" 850. 1795
/gene="CD86"
BASE COUNT 592 a 366 c 347 g 490 t
ORIGIN

Query Match 6.1%; Score 61; DB 4; Length 1795;
Best Local Similarity 100.0%; Pred. No. 8.8e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 74 CTTCCATGAGAGTCACATATTTCACAGACTGAGACCTGCATGCCATTTCACAA 133
|||||
Db 77 CTTCCATGAGAGTCACATATTTCACAGACTGAGACCTGCATGCCATTTCACAA 136

QY 134 A 134
+
Db 137 A 137

RESULT 5
AF106826 1897 bp mRNA linear MAM 14-DEC-1999
LOCUS AF106826
DEFINITION Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
ACCESSION AF106826
VERSION AF106826.1 GI:6572516
KEYWORDS
SOURCE Canis familiaris.
ORGANISM Canis familiaris
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.

REFERENCE 1 (bases 1 to 1897)
AUTHORS Yang, S. and Sim, G.-K.
TITLE New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules
JOURNAL Immunogenetics 50 (5-6), 349-353 (1999)
MEDLINE 20093996
PUBMED 10630300

REFERENCE 2 (bases 1 to 1897)
AUTHORS Yang, S. and Sim, G.-K.
TITLE Direct Submission
JOURNAL Submitted (16-NOV-1998) Basic Immunology, Hesta Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
source
1..1897
Location/Qualifiers

/organism="Canis familiaris"
/db_xref="taxon:9615"
/cell_type="peripheral blood mononuclear cells"

gene
1..1897
/gene="CD86"
5'UTR
1..5
/gene="CD86"
CDS
6..995
/gene="CD86"
/function="counter-receptor for CD28 and CD152 (CTLA4)"
/codon_start=1
/product="B7-2 protein"
/protein_id="AA17297.1"
/db_xref="GI:6572517"

/translation="MYRLTMELENNILFVMTLLLYGAASKSQAYFNKGTGELPCHEFTN
SONISIDELIVFWDQDKLVLEYLRGENQONVHRKYGRTSGDKNDKRLHNIQI
KDKGLYOCFVHKGKGLVPMHOMNSDLSVLANFSOPEINWTSNRNENSGIINTGSS
IOGYDEPEKMEFLVKTENSTKYDTVMKSONNTELYNVSISLSPVSPASNVSIIC
VLOESMKLPSLPYNIIDAHNTKPTPDGHIILIAALVAVILCGVFFILRRKKKKO
RPSHSCETNKYERKESFOTKERVYHTEHRSDEDAQCYNISKTSQDNSTTQ"

3'UTR
996..1897
/gene="CD86"
BASE COUNT 585 a 400 c 383 g 529 t
ORIGIN

Query Match 6.1%; Score 61; DB 4; Length 1897;
Best Local Similarity 100.0%; Pred. No. 8.7e-23;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 74 CTTCCATGAGAGTCACATATTTCACAGACTGAGACCTGCATGCCATTTCACAA 133
|||||
Db 76 CTTCCATGAGAGTCACATATTTCACAGACTGAGACCTGCATGCCATTTCACAA 135

QY 134 A 134
+
Db 136 A 136

RESULT 6
PIGCD86G 994 bp mRNA linear MAM 17-JUN-1997
LOCUS PIGCD86G
DEFINITION Sus scrofa CD86 mRNA, complete cds.
ACCESSION L76099
VERSION L76099.1 GI:2198558
KEYWORDS T cell costimulation.
SOURCE Sus scrofa.
ORGANISM Sus scrofa

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
REFERENCE 1 (bases 1 to 994)
AUTHORS Maher, S.E., Karmann, K., Min, W., Hughes, C.C., Pober, J.S. and
Bothwell, A.L.
TITLE Porcine endothelial CD86 is a major costimulator of xenogeneic
human T cells: cloning, sequencing, and functional expression in
human endothelial cells
JOURNAL J. Immunol. 157 (9), 3838-3844 (1996)
MEDLINE 97047772
PUBMED 8892613
COMMENT GSDB:S:74002

FEATURES
source
1..994
Location/Qualifiers

/organism="Sus scrofa"
/db_xref="taxon:9823"
/cell_line="PEC-A"
/cell_type="endothelial"
/clone_lib="3"
/dev_stage="adult"
1..994
/gene="CD86"
1..978
/gene="CD86"
/standard_name="B7-2"
/note="putative"
/codon_start=1
/protein_id="AAB61307.1"
/db_xref="GI:2198559"

/translation="WGLSNILFVWVLLLSGAASLSQAYFNKGTGELPCHEFTN
DELIVFWDQDKLVLEYLRGENQONVHRKYGRTSGDKNDKRLHNIQI
KDKGLYOCFVHKGKGLVPMHOMNSDLSVLANFSOPEINWTSNRNENSGIINTGSS
IOGYDEPEKMEFLVKTENSTKYDTVMKSONNTELYNVSISLSPVSPASNVSIIC
VLOESMKLPSLPYNIIDAHNTKPTPDGHIILIAALVAVILCGVFFILRRKKKKO
RPSHSCETNKYERKESFOTKERVYHTEHRSDEDAQCYNISKTSQDNSTTQ"

3'UTR
979..994
/gene="CD86"
/note="putative"
polyA_site
994
/gene="CD86"
/evidence="experimental"

BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN

Query Match 4.0%; Score 40; DB 4; Length 994;
Best Local Similarity 100.0%; Pred. No. 8.3e-11;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 810 AACACTAAGAGAAAGAGAGAGCGCTGCGCCCTCT 849
|||||
Db 789 AACACTAAGAGAAAGAGAGAGCGCTGCGCCCTCT 828

RESULT 7
AX027016

LOCUS	AX027016	994 bp	DNA	linear	PAT 16-SEP-2000
DEFINITION	Sequence 13 from Patent WO0037102.				
ACCESSION	AX027016				
VERSION	AX027016.1	GI:10188045			
KEYWORDS					
SOURCE	pig.				
ORGANISM	Sus scrofa				
REFERENCE	Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus. 1 (bases 1 to 994)				
AUTHORS	Rogers,N.J., Dorrling,A. and Lechler,R.I.				
TITLE	Immunosuppression				
JOURNAL	Patent: WO 0037102-A 13 29 JUN-2000;				
	ROGERS NICHOLA JANE (GB)				
	LECHLER ROBERT IAN (GB)				
FEATURES	Location/Qualifiers				
source	1..994				
	/organism="Sus scrofa"				
	/db_xref="taxon:9823"				
BASE COUNT	302 a	241 c	202 g	249 t	
ORIGIN					
Query Match	4.0%	Score 40;	DB 6;	Length 994;	
Best Local Similarity	100.0%;	Pred. No. 8,3e-11;			
Matches	40;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
Gy	810 AACACTAGGAAAGAGAGAGAACGACCGCGCCCTCT	849			
Db	789 AACACTAGGAAAGAGAGAGAACGACCGCGCCCTCT	828			
RESULT 8					
LOCUS	BTA291475	924 bp	mRNA	linear	MAM 14-OCT-2000
DEFINITION	Bos taurus partial mRNA for CD86 antigen (CD86 gene).				
ACCESSION	AJ291475				
VERSION	AJ291475.1	GI:10803379			
KEYWORDS	B7-2; CD86 antigen; CD86 gene.				
SOURCE	cow.				
ORGANISM	Bos taurus				
	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Bovinae; Bos.. 1 (bases 1 to 924)				
REFERENCE	Brooke,G.P., Howard,C.J. and Parsons,K.R.				
AUTHORS	Cloning and distribution of cattle CD86				
TITLE	Unpublished				
JOURNAL	2 (bases 1 to 924)				
REFERENCE	Brooke,G.P.				
AUTHORS	Direct Submission				
TITLE	Submitted (12-OCT-2000) Brooke G.P., Cellular Immunology, Institute				
JOURNAL	For Animal Health, Compton, Berks, RG20 7NN, UNITED KINGDOM				
FEATURES	Location/Qualifiers				
source	1..924				
	/organism="Bos taurus"				
	/db_xref="taxon:9913"				
	/cell_type="monocyte"				
	/tissue_type="peripheral blood"				
	/dev_stage="adult"				
	/country="United Kingdom"				
	72..924				
	/gene="CD86"				
	72..>924				
	/gene="CD86"				
	/function="Immune response"				
	/codon_start=1				
	/product="CD86 antigen"				
	/protein_id="CAC13140.1"				
	/db_xref="GI:10803380"				
	/translation="MRKCTGMIRIILMGALRLSVKVPFSGAASLKSHAFNPTGGLPCHPFNONSLEDELYIFWQDONKLYLYELFKGQERNNNYPYIGTSPDQSWITLPHANVQDTGTYOCFIHHRKSGVLVTHQMSDILYANSGEPIRLINQTEKSNINLWTSIOGYPEQPMYVSLNLTNSSSTYAVMKRSGSNLTETLWNSIVSFPIPEE				
gene					
CDS					

BASE COUNT	295 a	226 c	175 g	228 t	TNTTTCALQLEPFTKILLISQPIYIMDKSVSPSPVPDHLMLAALLVTVVSGMWFL LKKKKKL"
ORIGIN					
Query Match					3.9%; Score 39; DB 4; Length 924;
Best Local Similarity					100.0%; Pred. No. 3.1e-10;
Matches	39;	Conservative	0;	Mismatches	0; Indels 0; Gaps 0;
QY	466	AATTGACCTGCTCATCTATACAGAGTTACCCAGACCT	504		
Db	555	AATTGACCTGCTCATCTATACAGAGTTACCCAGACCT	593		
RESULT 9					
LOCUS	AX002781	738 bp	DNA	linear	PAT 21-AUG-2000
DEFINITION	Sequence 4 from Patent WO9855607.				
ACCESSION	AX002781				
VERSION	AX002781.1	GI:9885109			
KEYWORDS					
SOURCE					
ORGANISM		synthetic construct.			
REFERENCE		artificial sequences.			
AUTHORS		1 (bases 1 to 738)			
TITLE		Bebbington,C.R. and Carroll,M.W.			
JOURNAL		Patent: WO 9855607-A 4 10-DEC-1998;			
		BERBINGTON CHRISTOPHER ROBERT (GB); CARROLL MILES WILLIAM (GB)			
FEATURES					
Source		location/Qualifiers			
		1..738			
		/organism="synthetic construct"			
		/db_xref="taxon:32630"			
		1..>738			
		/note="unnamed protein product"			
		/codon_start=1			
		/transl_table=11			
		/protein_id="CAC04193.1"			
		/db_xref="GI:9885110"			
		/translation="MGLSNLLFWAFLISGAAPLKIQAIVFENETADLPQFANQSNL			
		SELVEWQDQENLVLENYLGKEKFDVSHSKYMRISFSDSWTLRLANQIQDKGLY			
		OCIIHKKPTGEMIRIHQNSLELVLANSOEIVPISNIITENYINLTCSIHQYPP			
		KRMVLLRTKNTSITIEDYIMQKSDQNVNTELDVSISSVSPDVTSMNLTFCILETDK			
		TRLSPSPIELEDDPPPPDHIPGSGS"			
BASE COUNT	215 a	168 c	148 g	207 t	
ORIGIN					
Query Match					3.3%; Score 33; DB 6; Length 738;
Best Local Similarity					100.0%; Pred. No. 8.2e-07;
Matches	33;	Conservative	0;	Mismatches	0; Indels 0; Gaps 0;
QY	394	TCAGTCCTGCTAACCTCAGTCACACTGGAATA	426		
Db	373	TCAGTCCTGCTAACCTCAGTCACACTGGAATA	405		
RESULT 10					
LOCUS	AX149548	738 bp	DNA	linear	PAT 08-JUN-2001
DEFINITION	Sequence 9 from Patent WO0136486.				
ACCESSION	AX149548				
VERSION	AX149548.1	GI:14347987			
KEYWORDS					
SOURCE					
ORGANISM		synthetic construct.			
REFERENCE		artificial sequences.			
AUTHORS		1 (bases 1 to 738)			
TITLE		Kingsman,A.O., Kingsman,S.M., Bebbington,C.R., Carroll,M.W.,			
JOURNAL		Ellard,F.M. and Myers,K.A.			
		Patent: WO 0136486-A 9 25-MAY-2001;			
		Oxford Biomedical (UK) limited (GB)			
FEATURES		location/Qualifiers			

GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 274.433 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996
Sequence: 1 atgggcattgtgacagcac.....acaaagactacacattt 996

Scoring table: OLIGO NUC
Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 1125999159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002:*

- 1: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
- 2: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
- 3: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
- 4: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT:*
- 5: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
- 6: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT:*
- 7: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT:*
- 8: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT:*
- 9: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT:*
- 10: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT:*
- 11: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT:*
- 12: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT:*
- 13: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT:*
- 14: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT:*
- 15: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT:*
- 16: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT:*
- 17: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT:*
- 18: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT:*
- 19: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT:*
- 20: /SID2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT:*
- 21: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
- 22: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
- 23: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
- 24: /SID2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	996	100.0	996	20	AA227931	Feline B7-2 protei
2	996	100.0	996	20	AA227932	Complementary stra
3	996	100.0	2830	20	AA227929	Feline B7-2 protei
4	996	100.0	2830	20	AA227930	Feline B7-2 gene c
5	948	95.2	1080	21	AA234838	Feline CD86 (B7-2)
6	948	95.2	1080	21	AA234785	Cat CD86 (B7-2) cd
7	948	95.2	1080	24	AA146840	Feline CD86 coding
8	948	95.2	1080	24	ABK48230	cdna encoding feli
9	509	51.1	509	20	AA227933	Feline B7-2 protei

c	10	509	51.1	509	20	AA227934	Feline B7-2 gene (
c	11	227	22.8	359	20	AA227935	Feline B7-2 protei
c	12	227	22.8	359	20	AA227936	Feline B7-2 gene (
c	13	61	6.1	840	20	AA227923	Complementary stra
c	14	61	6.1	840	20	AA227924	Complementary stra
c	15	61	6.1	987	20	AA227915	Complementary stra
c	16	61	6.1	987	20	AA227916	Complementary stra
c	17	61	6.1	1795	20	AA227921	Canine B7-2S prote
c	18	61	6.1	1795	20	AA227922	Canine B7-2S gene
c	19	61	6.1	1897	20	AA227913	Canine B7-2 protei
c	20	61	6.1	1897	20	AA227914	Canine B7-2 gene c
	21	49	4.9	764	18	AA262939	Chimeric human/por
	22	49	4.9	1050	21	AAA49661	Pig costimulatory
	23	33	3.3	738	20	AAV80293	Human B7-2 extrace
	24	33	3.3	738	22	AAV89731	Nucleotide sequenc
	25	33	3.3	831	19	AAV03230	DNA encoding CD86
	26	33	3.3	972	20	AAV83208	B7-2 cdna. Homo s
	27	33	3.3	972	20	AAV83208	Human co-stimulato
	28	33	3.3	1120	16	AAO81351	Human B lymphocyte
	29	33	3.3	1120	18	AA249181	Human B lymphocyte
	30	33	3.3	1120	20	AAV55784	Human B7-2 antigen
	31	33	3.3	1120	21	AA249181	Human B lymphocyte
	32	33	3.3	1120	24	AA279968	Human B7-2 cdna.
	33	33	3.3	1120	24	AA279968	Human B7-2 cdna.
	34	33	3.3	1424	21	AA229321	Human B7-2 cdna.
	35	33	3.3	1424	24	ABK84193	Human cdna differe
	36	33	3.3	1424	24	ABK63096	Breast cancer rela
	37	33	3.3	1424	24	ABK64678	Stomach cancer rel
	38	33	3.3	1428	16	AAO85873	B70 type B antigen
	39	33	3.3	2205	22	AAH72616	Human cervical can
	40	30	3.0	195	16	AA201072	Human B7-2 exon h1
c	40	28	2.8	28	21	AA234860	Feline CD86 cdna 3
c	41	28	2.8	28	21	AA234860	Cat CD86 ligand cd
c	42	28	2.8	28	24	AA168864	Feline CD86 gene s
c	43	28	2.8	28	24	ABK67571	Feline CD86 gene s
c	44	28	2.8	1151	20	AAV55785	Mouse B7-2 antigen
c	45	28	2.8	1163	18	AAO81366	Mouse B lymphocyte
c	46	28	2.8	1163	18	AA249182	Mouse B lymphocyte
c	47	28	2.8	1163	21	AA249182	Mouse B7-2 exons m
c	48	28	2.8	1261	16	AA201046	Human gene specifc
c	49	27	2.7	28	24	ABK65513	Human B lymphocyte
c	50	27	2.7	306	18	AA249198	Human B7-2 constan
c	51	27	2.7	306	21	AA249198	Feline CD86 cdna 5
c	52	25	2.5	25	21	AA234861	Feline CD86 cdna 3
c	53	25	2.5	25	21	AA234862	Feline CD86 cdna n
c	54	25	2.5	25	24	AA234863	Cat CD86 ligand cd
c	55	25	2.5	25	21	AA234811	Cat CD86 ligand cd
c	56	25	2.5	25	21	AA234813	Cat CD86 ligand cd
c	57	25	2.5	25	21	AA234815	Cat CD86 ligand cd
c	58	25	2.5	25	21	AA234815	Feline CD86 PCR pr
c	59	25	2.5	25	24	AA146868	Feline CD86 PCR pr
c	60	25	2.5	25	24	AA146870	Feline CD86 PCR pr
c	61	25	2.5	25	24	ABK65752	Feline CD86 nested
c	62	25	2.5	25	24	ABK65752	Feline CD80 gene s
c	63	25	2.5	25	24	ABK65754	Feline CD80 nested
c	64	24	2.4	54	19	AAV33748	Ig-like V domain a
c	65	24	2.4	62	16	AAO813751	Ig-like V domain a
c	66	24	2.4	62	16	AAO81391	Reverse primer for
c	67	24	2.4	62	18	AA249605	Human B7-2 Ig cons
c	68	24	2.4	62	21	AA249605	Human B7-2 Ig cons
c	69	24	2.4	63	16	AAO81390	Reverse primer for
c	70	24	2.4	63	18	AA249604	Onco M gene signal
c	71	24	2.4	63	21	AA249604	Onco M gene signal
c	72	23	2.3	330	18	AA249197	Human B lymphocyte
c	73	23	2.3	330	21	AA249197	Human B7-2 variabl
c	74	23	2.3	330	21	AA249197	EST clone CR306.
c	75	23	2.3	403	20	AAV89569	Human secreted pio
c	76	23	2.3	430	21	AA249197	Rat CD86 coding se
c	77	22	2.2	33	20	AA227952	Feline B7-2 gene s
c	78	21	2.1	21	21	AA234856	Feline CD86 cdna 5
c	79	21	2.1	21	21	AA234856	Cat CD86 ligand cd
c	80	21	2.1	21	24	AA146859	Feline CD86 PCR pr
c	81	21	2.1	21	24	ABK67567	Feline CD86 degene
c	82	21	2.1	505	22	AA207297	Drosophila melanog

83	20	2.0	20	AAZ27949	Feline B7-2 gene s
84	20	2.0	20	AAZ27950	Feline B7-2 gene s
85	20	2.0	20	AAF32812	Human B7-2 mRNA an
86	20	2.0	20	AAF32991	Human B7-2 antisen
87	20	2.0	22	AAF32785	Human B7-2 PCR pri
88	20	2.0	31	AAZ27956	Feline B7-2 gene s
89	20	2.0	563	ABV56304	Human prostate exp
90	19	1.9	19	AAZ27927	Canine B7-2 DNA am
91	19	1.9	20	AAF32992	Human B7-2 antisen
92	19	1.9	20	AAF3185	Human B7-2 antisen
93	19	1.9	20	AAF3186	Human B7-2 antisen
94	19	1.9	326	AAI10624	Human secreted pro
95	19	1.9	341	AAH88072	Peppermint plant o
96	19	1.9	2358	AAI18743	CDNA encoding low-
97	19	1.9	2463	AAH42341	Nucleotide sequenc
98	19	1.9	2577	AAK35740	CDNA encoding a pr
99	19	1.9	2880	AAK56889	Human cDNA encodin
100	19	1.9	3010	ABL61774	Colon adenocarcino

ALIGNMENTS

```
RESULT 1
AAZ27931
ID AAZ27931 standard; DNA; 996 BP.
XX
AC AAZ27931;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein coding sequence.
XX
KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; feline;
KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Felis catus.
XX
PN WO947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
XX
PR 17-APR-1998; 98US-0062597.
XX
PA (HESKA-) HESKA CORP.
XX
PI Slim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
XX
DR P-PSDB; AAY41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX breeding, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 123-124; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
Query Match 100.0%; Score 996; DB 20; Length 996;
```

Best Local Similarity 100.0%; Pred. No. 0;									
Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;									
Qy	1	ATGGGCAATTTGTGACACACTATGTGGAGTGCACCTCTCTTGATGAGCCCTCTCTG	60						
Db	1	ATGGGCAATTTGTGACACACTATGTGGAGTGCACCTCTCTTGATGAGCCCTCTCTG	60						
Qy	61	CTCTCTGAGTGTCTTCCATGAAAGATGACATATTTCAACAAAGCTGAGAACTGCCA	120						
Db	61	CTCTCTGAGTGTCTTCCATGAAAGATGACATATTTCAACAAAGCTGAGAACTGCCA	120						
Qy	121	TGCCATTTTCAAACTCTCAAAACATTAAGCTGATGAGCTGATATTTTGGCAGGAC	180						
Db	121	TGCCATTTTCAAACTCTCAAAACATTAAGCTGATGAGCTGATATTTTGGCAGGAC	180						
Qy	181	CAGATTAAGCTGCTCTCTGTATGATATTTTGAAGGCAAAAGAAACCTCAAAATGTTCA	240						
Db	181	CAGATTAAGCTGCTCTCTGTATGATATTTTGAAGGCAAAAGAAACCTCAAAATGTTCA	240						
Qy	241	CTCAATATTAAGGCGCGTACAGCTTTGACACAGACAACTGACCGCTGAGACTCCACAA	300						
Db	241	CTCAATATTAAGGCGCGTACAGCTTTGACACAGACAACTGACCGCTGAGACTCCACAA	300						
Qy	301	GTTTCAGATCAAGGCAAGGCGACATATCACTGTTTCATTATTAAGGCGCCAAAGCA	360						
Db	301	GTTTCAGATCAAGGCAAGGCGACATATCACTGTTTCATTATTAAGGCGCCAAAGCA	360						
Qy	361	CTAGTTCCTCAAGCAACCAATAGAGTCTGACCTTACGATGCTGCTTCACTTCACTCAACCT	420						
Db	361	CTAGTTCCTCAAGCAACCAATAGAGTCTGACCTTACGATGCTGCTTCACTTCACTCAACCT	420						
Qy	421	GAATTAACAGTAACCTTCTAATAGAACAGAAATTCGTGCAATCAATTTGACCTGCTCA	480						
Db	421	GAATTAACAGTAACCTTCTAATAGAACAGAAATTCGTGCAATCAATTTGACCTGCTCA	480						
Qy	481	TCTATTAAGGTTTACCAGAACTAAGAGATATTTTCACTTAACACTGGAATTTCA	540						
Db	481	TCTATTAAGGTTTACCAGAACTAAGAGATATTTTCACTTAACACTGGAATTTCA	540						
Qy	541	ACTACTAAGTATGATCTGATGAAAGAAATTCGAAATATGACAGAACTGTAACAC	600						
Db	541	ACTACTAAGTATGATCTGATGAAAGAAATTCGAAATATGACAGAACTGTAACAC	600						
Qy	601	GTTTCTATACAGCTTGCCCTTTTTCAGTCCCTGAAGCAACAACTGAGCGCTTTGTGCC	660						
Db	601	GTTTCTATACAGCTTGCCCTTTTTCAGTCCCTGAAGCAACAACTGAGCGCTTTGTGCC	660						
Qy	661	CTGAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATATGATGCAACACT	720						
Db	661	CTGAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATATGATGCAACACT	720						
Qy	721	AAGATTAAGACCTGAAACAGGCGCACTTCTGATGAGTTCGCTGATGTAATGTTT	780						
Db	721	AAGATTAAGACCTGAAACAGGCGCACTTCTGATGAGTTCGCTGATGTAATGTTT	780						
Qy	781	GTTGTTTTTGTGGAGTGTGCTCTTAAACACTAAGGAAAGAAAGAAAGACGCTT	840						
Db	781	GTTGTTTTTGTGGAGTGTGCTCTTAAACACTAAGGAAAGAAAGAAAGACGCTT	840						
Qy	841	GCGCCCTCTCATATGATGTAACCAATCAAAAGGGAAGAAAGAGCAACAGACCAAC	900						
Db	841	GCGCCCTCTCATATGATGTAACCAATCAAAAGGGAAGAAAGAGCAACAGACCAAC	900						
Qy	901	GAAGAGTACCATACACAGTACAGAGATGAGATGAGAGCCAGATTTTAAATTTTG	960						
Db	901	GAAGAGTACCATACACAGTACAGAGATGAGATGAGAGCCAGATTTTAAATTTTG	960						
Qy	961	AAGACAGCTTACAGCGCAAAAGTACTACATTTT	996						
Db	961	AAGACAGCTTACAGCGCAAAAGTACTACATTTT	996						

RESULT 2

AAZ27932/c
 ID AAZ27932 standard; DNA: 996 BP.
 XX
 AC AAZ27932:
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Complementary strand of feline B7-2 coding sequence.
 XX
 KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PE 19-MAR-1999: 99WO-US06187.
 XX
 PR 19-MAR-1998: 98US-0078765.
 PR 17-APR-1998: 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS:
 XX
 DR WPI: 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 124-125; 148bp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;

Query Match 100.0%; Score 996; DB 20; Length 996;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGGGCAATTTGACAGCACTATGGAGCTGATGACACATCTCTGTGATGGCCCTCTG 60
 DB 996 ATGGGCAATTTGACAGCACTATGGAGCTGATGACACATCTCTGTGATGGCCCTCTG 937
 QY 61 CTTCTGGTGTTCCTCATGAAGCAAGCATATTTCAACAGAGCTGAGAACTGCCA 120
 DB 936 CTTCTGGTGTTCCTCATGAAGCAAGCATATTTCAACAGAGCTGAGAACTGCCA 877
 QY 121 TGCCATTTTACAACTCAAAACATTAAGCCTGGATGAGTGTGATTTTGGCAGGAC 180
 DB 876 TGCCATTTTACAACTCAAAACATTAAGCCTGGATGAGTGTGATTTTGGCAGGAC 817
 QY 181 CAGGATTAAGCTGTCTGTATGAGATATTCAGAGGCAAAAGAACTCTCAAAATGTTCA 240
 DB 816 CAGGATTAAGCTGTCTGTATGAGATATTCAGAGGCAAAAGAACTCTCAAAATGTTCA 757
 QY 241 CTCAATATAAGGCGGTACAGCTTGCAGAGCAACATGSAACCTGAACTCCACAAT 300
 DB 756 CTCAATATAAGGCGGTACAGCTTGCAGAGCAACATGSAACCTGAACTCCACAAT 697
 QY 301 GTTCGATCAAGGACCAAGGCAATATGCTGTTCAATCTATTAAAGGCCCAAGCA 360
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

DB 696 GTTCGATCAAGGACCAAGGCAATATGCTGTTTCATTCATTAATAAGGCCCAAGCA 637
 QY 361 CTAGTCCCATATGACCAAAATGATGTTGACCTATTCAGCTGTTCTACTTCACTCAACT 420
 DB 636 CTAGTCCCATATGACCAAAATGATGTTGACCTATTCAGCTGTTCTACTTCACTCAACT 577
 QY 421 GAAATTAACAGTACTTCTTAATAGAACAGAAATTCGCGCATCAATATTTGACCTGTCA 480
 DB 576 GAAATTAACAGTACTTCTTAATAGAACAGAAATTCGCGCATCAATATTTGACCTGTCA 517
 QY 481 TCTATACAGGTTACCCAGAACCTAAGAGATATATTTTACGTAAACCTGAGAAATTA 540
 DB 516 TCTATACAGGTTACCCAGAACCTAAGAGATATATTTTACGTAAACCTGAGAAATTA 457
 QY 541 ACTACTAAGTATGATCTGTCATGAGAAATTCGAAATATGTCAGACAGACTGTACAC 600
 DB 456 ACTACTAAGTATGATCTGTCATGAGAAATTCGAAATATGTCAGACAGACTGTACAC 397
 QY 601 GTTCTATACAGCTGCTGCTTTTTCAGTCCGAGGACACAGATGAGCGCTTTTGTGC 660
 DB 396 GTTCTATACAGCTGCTGCTTTTTCAGTCCGAGGACACAGATGAGCGCTTTTGTGC 337
 QY 661 CTGAACCTGAGACACTGAGATGCTCTCTCCCTACCTTTCATATAGATGACAACT 720
 DB 336 CTGAACCTGAGACACTGAGATGCTCTCTCCCTACCTTTCATATAGATGACAACT 277
 QY 721 AAGGATTAAGACCTGAAACAAAGGCACTTCTGATTCGGCTGTACTTGTATGTT 780
 DB 276 AAGGATTAAGACCTGAAACAAAGGCACTTCTGATTCGGCTGTACTTGTATGTT 217
 QY 781 GTTGTGTTTGTGGAGTGTGCTCTTAAACACTAAGAAAGAAAGGACGCT 840
 DB 216 GTTGTGTTTGTGGAGTGTGCTCTTAAACACTAAGAAAGAAAGGACGCT 157
 QY 841 GGCCCTCTCATGATGTGAACCATCAAAAGGAGGAAAGGACCAAGGACCAAC 900
 DB 156 GGCCCTCTCATGATGTGAACCATCAAAAGGAGGAAAGGACCAAGGACCAAC 97
 QY 901 GAAAGATACATACCACTGACCTGAGAGATCTGATGAGCCGAGTGTATTAATTTTG 960
 DB 96 GAAAGATACATACCACTGACCTGAGAGATCTGATGAGCCGAGTGTATTAATTTTG 37
 QY 961 AAGACGCTTACGGGACCAAAAGTACTACATTTT 996
 DB 36 AAGACGCTTACGGGACCAAAAGTACTACATTTT 1

RESULT 3
 ID AAZ27929
 ID AAZ27929 standard; DNA: 2830 BP.
 XX
 AC AAZ27929:
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 protein encoding DNA.
 XX
 KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PE 19-MAR-1999: 99WO-US06187.
 PR 19-MAR-1998: 98US-0078765.
 PR 17-APR-1998: 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.

XX Sim G, Yang S, Sellins KS:
 XX WPI, 1999-571822/48.
 DR P-PSDB; AAY41079.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 treating, e.g. autoimmune and atopic diseases
 PS Claim 1: Page 116-119; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SO Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other:
 Query Match 100.0%; Score 996; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0:
 Oy 1 ATGGGCAATTTGTGACACATATGAGTCACTGCTCTCTGATGGCCCTCTG 60
 Db 179 ATGGGCAATTTGTGACACATATGAGTCACTGCTCTCTGATGGCCCTCTG 238
 Oy 61 CTCTGTGTTCTTCCATGAGAGTCAAGCATATTTCAACAAGCTGGAGACTGCCA 120
 Db 239 CTCTGTGTTCTTCCATGAGAGTCAAGCATATTTCAACAAGCTGGAGACTGCCA 298
 Oy 121 TGGCATTTCACAACTCTCAAAACATAGGCTGGATGAGTGTGATTTTGGCAGGAC 180
 Db 299 TGGCATTTCACAACTCTCAAAACATAGGCTGGATGAGTGTGATTTTGGCAGGAC 358
 Oy 181 CAGGATAGCTGTGTTCTGATGATATTCAGAGGCAAGAACCTCTCAAAATGTTTCA 240
 Db 359 CAGGATAGCTGTGTTCTGATGATATTCAGAGGCAAGAACCTCTCAAAATGTTTCA 418
 Oy 241 CTCAAATATAGGCGCTTACAGCTTTGACAGAGACACTGGACCTGAGCTCCCAAT 300
 Db 419 CTCAAATATAGGCGCTTACAGCTTTGACAGAGACACTGGACCTGAGCTCCCAAT 478
 Oy 301 GTTCAGATCAAGGACAGGCGACATATCACTGTTTCAATATATAAGAGGCCCAAGGA 360
 Db 479 GTTCAGATCAAGGACAGGCGACATATCACTGTTTCAATATATAAGAGGCCCAAGGA 538
 Oy 361 CTAGTTCCCATGACCAATGAGTTCTGACCTATCACTGCTTCTAATCTCACTCAAC 420
 Db 539 CTAGTTCCCATGACCAATGAGTTCTGACCTATCACTGCTTCTAATCTCACTCAAC 598
 Oy 421 GAATTAACAGAACTTCTAATAGACAGAAATTTGGCATCAAAATTTGACCTGCTCA 480
 Db 599 GAATTAACAGAACTTCTAATAGACAGAAATTTGGCATCAAAATTTGACCTGCTCA 658
 Oy 481 TCTATACAGTTACCCAGAACCTAAGAGATGATTTTCACTTAACACTGGAATTTCA 540
 Db 659 TCTATACAGTTACCCAGAACCTAAGAGATGATTTTCACTTAACACTGGAATTTCA 718
 Oy 541 ACTAATAGTATGATGTCATGAGAGAAATCTCAAAATATATGACAGAGCTGTACAC 600
 Db 719 ACTAATAGTATGATGTCATGAGAGAAATCTCAAAATATATGACAGAGCTGTACAC 778
 Oy 601 GTTCTATACAGCTGCTTTTTCAGTCCCTGAAGGACACACATGAGACCTTTTGGCC 660
 Db 779 GTTCTATACAGCTGCTTTTTCAGTCCCTGAAGGACACACATGAGACCTTTTGGCC 838
 Oy 661 AACTGAGACACTGAGATGCTGCTCCCTTACCTTCAATATAGATGACCAACT 720

Db 839 CTGAAGTGAAGACACAGTGAATGCTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 898
 Oy 721 AAGCATTAAGACCCCTGACAGAGGCGCACTCTCTGAGATGGCGCTGATCTGTAATGTT 780
 Db 899 AAGCATTAAGACCCCTGACAGAGGCGCACTCTCTGAGATGGCGCTGATCTGTAATGTT 958
 Oy 781 GTTGTCTTTTGTGGATGCTGCTCTTTTAAACACTAAGAGAAAGAGAGAGAGAGAGAG 840
 Db 959 GTTGTCTTTTGTGGATGCTGCTCTTTTAAACACTAAGAGAAAGAGAGAGAGAGAGAG 1018
 Oy 841 GGCCCTCTCATGATGATGTAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG 900
 Db 1019 GGCCCTCTCATGATGTAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 1078
 Oy 901 GAAAGAGTACCATACAGCTAGATCTGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 960
 Db 1079 GAAAGAGTACCATACAGCTAGATCTGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 1138
 Oy 961 AAGAGAGCTCAGGCGGAG 996
 Db 1139 AAGAGAGCTCAGGCGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 1174
 RESULT 4
 AA27930/C
 ID AA27930 standard; DNA: 2830 BP.
 XX
 XX AA27930;
 AC
 XX
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 gene complementary DNA sequence.
 XX
 KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 PN W09947558-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI, 1999-571822/48.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 treating, e.g. autoimmune and atopic diseases
 PS Claim 1: Page 121-123; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SO Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other:
 Query Match 100.0%; Score 996; DB 20; Length 2830;
 Best Local Similarity 100.0%; Pred. No. 0;

Matches 996; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 ATGGGCAATTTGGACAGCACTATGGAGTGAAGTCACTCTCTCTGATGGCCCTCTG 60
   |||||
Db 2652 ATGGGCAATTTGGACAGCACTATGGAGTGAAGTCACTCTCTCTGATGGCCCTCTG 2593
QY 61 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 120
   |||||
Db 2592 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGACTGCCA 2533
QY 121 TGGCATTTTACAACACTCTCAAAAACATTAACCTGGATGAGCTGGTATTTGGCGAGAC 180
   |||||
Db 2532 TGGCATTTTACAACACTCTCAAAAACATTAACCTGGATGAGCTGGTATTTGGCGAGAC 2473
QY 181 CAGGATTAAGCTGGTCTGATGATATTCAGAGGCAAGAGACCCCTCAAAATGTTCA 240
   |||||
Db 2472 CAGGATTAAGCTGGTCTGATGATATTCAGAGGCAAGAGACCCCTCAAAATGTTCA 2413
QY 241 CTCGAATTAAGGGCCGTACAAAGCTTTGACAAGACACTGGACCCCTGAGACTCCACAAT 300
   |||||
Db 2412 CTCGAATTAAGGGCCGTACAAAGCTTTGACAAGACACTGGACCCCTGAGACTCCACAAT 2353
QY 301 GTTCACATTAAGGACAGGCGCACATATCACTGTTTCATTCAATTAAAGGCCCAAGGA 360
   |||||
Db 2352 GTTCACATTAAGGACAGGCGCACATATCACTGTTTCATTCAATTAAAGGCCCAAGGA 2293
QY 361 CTAGTCCCATGACCAAAATGAGTTCTGACCTATCACTGCTTGTCACTTCACTCAACT 420
   |||||
Db 2292 CTAGTCCCATGACCAAAATGAGTTCTGACCTATCACTGCTTGTCACTTCACTCAACT 2233
QY 421 GAAATTAACAGTAATCTCTAATAGAACAGAAATTTGCGATCATTAATTTGACCTGCTCA 480
   |||||
Db 2232 GAAATTAACAGTAATCTCTAATAGAACAGAAATTTGCGATCATTAATTTGACCTGCTCA 2173
QY 481 TCTATCAAGGTATACCCCAACACTAAGGAGATGATATTTCACTTAACCTAGAAATTA 540
   |||||
Db 2172 TCTATCAAGGTATACCCCAACACTAAGGAGATGATATTTCACTTAACCTAGAAATTA 2113
QY 541 ACTACTAAGTATGATCTGTCATGAAGAATCTCAAAATTAATGTGACACACTGTCACAC 600
   |||||
Db 2112 ACTACTAAGTATGATCTGTCATGAAGAATCTCAAAATTAATGTGACACACTGTCACAC 2053
QY 601 GTTTCATCAAGCTTGCCTTTTTCAGTCCCTGGAAGACACAAATGTGAGCCGCTTTTGTGCC 660
   |||||
Db 2052 GTTTCATCAAGCTTGCCTTTTTCAGTCCCTGGAAGACACAAATGTGAGCCGCTTTTGTGCC 1993
QY 661 CTGAACCTGAGACACTGAGATGCTGCTCTCCTTACCTTTCAATTAATGACACACT 720
   |||||
Db 1992 CTGAACCTGAGACACTGAGATGCTGCTCTCCTTACCTTTCAATTAATGACACACT 1933
QY 721 AAGGATAAAGACCTGTAACAGGCGCACTTCTGATTTGGCGCTTACTTGTAAATGTT 780
   |||||
Db 1932 AAGGATAAAGACCTGTAACAGGCGCACTTCTGATTTGGCGCTTACTTGTAAATGTT 1873
QY 781 GTTGTGTTTGTGGATGTGCTCTTTAAACACTTAAGAAAAAGAAAGAAAGACGAGCT 840
   |||||
Db 1872 GTTGTGTTTGTGGATGTGCTCTTTAAACACTTAAGAAAAAGAAAGAAAGACGAGCT 1813
QY 841 GGGCCCTTCATGATGTGAACATCAAAAGGAGAGAAAGAGCAAGACAGACAC 900
   |||||
Db 1812 GGGCCCTTCATGATGTGAACATCAAAAGGAGAGAAAGAGCAAGACAGACAC 1753
QY 901 GAAGAGTACATACACAGTACTGAGAGATCTGATGAAGCCAGTGTATTAACTTTTG 960
   |||||
Db 1752 GAAGAGTACATACACAGTACTGAGAGATCTGATGAAGCCAGTGTATTAACTTTTG 1693
QY 961 AAGACAGCTCAGGCGAACAAGTACTACATTTT 996
   |||||
Db 1692 AAGACAGCTCAGGCGAACAAGTACTACATTTT 1657

```

RESULT 5
AA234838

```

ID AA234838 standard; cDNA: 1080 BP.
XX AC
XX AA234838;
XX 28-FEB-2000 (first entry)
DI Feline CD86 (B7-2) cDNA.
DE CD86; B7-2; feline; cat; recombinant virus; vaccine;
KW immunomodulator; tumour; cancer; therapy; ss.
XX Fells domesticus.
OS
FH Key Location/Qualifiers
FT CDS 63..1052
ET /**tag= a
PN WO9957295-A1.
PD 11-NOV-1999.
XX 30-APR-1999; 99WO-US09504.
XX 01-MAY-1998; 98US-0071711.
XX (SCHE ) SCHERING-PLOUGH LTD.
XX (SCHE ) SCHERING-PLOUGH VETERINARY CORP.
XX Winslow BJ, Cochran MD;
XX WPI; 2000-062155/05.
DR P-PSDB; AAY32285.
XX Novel recombinant virus useful as immunomodulators, particularly in
PT vaccines -
PS Disclosure: Fig 3A; 230pp; English.
XX
XX This is the nucleotide sequence of cDNA coding for feline CD86
CC (B7-2). The cDNA was isolated from feline peripheral blood
CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
CC regulates T cell proliferation and cytokine release. The invention
CC relates to a recombinant virus that contains at least one foreign
CC nucleic acid, inserted into a nonessential genomic region, that
CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
CC immunogenic fragments, and is expressed when the recombinant virus
CC is introduced into a suitable host. The invention also provides:
CC a recombinant virus further comprising a foreign nucleic acid
CC encoding an immunogen derived from a feline pathogen; recombinant
CC viruses capable of enhancing an immune response to protect against
CC disease; recombinant viruses expressing antisense sequences,
CC capable of suppressing an immune response in a feline, e.g. for
CC treatment of autoimmune disease or transplant rejection; and
CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
CC to reduce or eliminate a tumour in cats.
XX
SO Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

```

Query Match 95.2%; Score 948; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 ATGGGCAATTTGGACAGCACTATGGAGTGAAGTCACTCTCTCTGATGGCCCTCTG 60
   |||||
Db 63 ATGGGCAATTTGGACAGCACTATGGAGTGAAGTCACTCTCTCTGATGGCCCTCTG 122
QY 61 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGAACTGCCA 120
   |||||
Db 123 CTCTCTGGTGTCTTCCATGAAAGTCAAGCATATTTCAACAAGACTGGAGAACTGCCA 182
QY 121 TGGCATTTTACAACACTCTCAAAAACATTAAGCTGGATGAGCTGGTATTTTGGCGAGAC 180
   |||||

```

```

Db 183 TGCCATTTTACAAACCTCTCAAAACATAGACCTGGATGAGCTGTAGTATTTTGGCAGGAC 242
Oy 181 CAGGATTAAGCTGGTTCTGTATGAGATATTCAGAGCAAGAACCCCAAAATGTTGAT 240
Db 243 CAGGATTAAGCTGGTTCTGTATGAGATATTCAGAGCAAGAACCCCAAAATGTTGAT 302
Oy 241 CTCAAAATTAAGGGCCGTACAGAGCTTTTGACAAGAACATGAGACCCTGAGACTCCACAAAT 300
Db 303 CTCAAAATTAAGGGCCGTACAGAGCTTTTGACAAGAACATGAGACCCTGAGACTCCACAAAT 362
Oy 301 GTTCAGATCAAGAGGAGGACATATTCAGTCTTCAATTCATTTAAAGGGCCCAAGGA 360
Db 363 GTTCAGATCAAGAGGAGGACATATTCAGTCTTCAATTCATTTAAAGGGCCCAAGGA 422
Oy 361 CTAGTCCCATGACCAAAATGAGTTCGACCTATCAGTGTCTTAACCTCAGTCAACT 420
Db 423 CTAGTCCCATGACCAAAATGAGTTCGACCTATCAGTGTCTTAACCTCAGTCAACT 482
Oy 421 GAAATACAGTAACTTCTTAATAGAACAAATTCGTGGCATCATTAATTTGACCTGCTCA 480
Db 483 GAAATACAGTAACTTCTTAATAGAACAAATTCGTGGCATCATTAATTTGACCTGCTCA 542
Oy 481 TCTATACAGGTTTACCCGAGACCTAGAGATGATTTTTCAGCTAAACACTGAGATTCGA 540
Db 543 TCTATACAGGTTTACCCGAGACCTAGAGATGATTTTTCAGCTAAACACTGAGATTCGA 602
Oy 541 ACTACTAGATGATGATCTGATGATGAGAAATCTCAAAATATGATGAGAACTGTACAC 600
Db 603 ACTACTAGATGATGATCTGATGATGAGAAATCTCAAAATATGATGAGAACTGTACAC 662
Oy 601 GTTCTCATACCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGTCTTTTGCC 660
Db 663 GTTCTCATACCTTGCCTTTTTCAGTCCCTGAGACACACAAATGTGACCGTCTTTTGCC 722
Oy 661 CTGAAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCATTAATGATGACCAACT 720
Db 723 CTGAAACCTGGAGACACTGAGATGCTGCTCCCTACCTTTCATTAATGATGACCAACT 782
Oy 721 AAGGATAAAGACCTGAAACAAGGCCACTTCTCTGATTTGGGCGCTGATCTGTATGTTT 780
Db 783 AAGGATAAAGACCTGAAACAAGGCCACTTCTCTGATTTGGGCGCTGATCTGTATGTTT 842
Oy 781 GTTGTTTTGTGGATGCTGCTCTTTTAAACACTAAGGAAAGAGAGAACAGACACCT 840
Db 843 GTTGTTTTGTGGATGCTGCTCTTTTAAACACTAAGGAAAGAGAGAACAGACACCT 902
Oy 841 GGCCCTCTCATGATGATGAAACCATGCAAAAAGGAGAGAAAAGAGACCAACAGCCAC 900
Db 903 GGCCCTCTCATGATGATGAAACCATGCAAAAAGGAGAGAAAAGAGACCAACAGCCAC 962
Oy 901 GAAAGAGTACCATACCAAGTACCTGAGAGATCTGATGAAGCCAGTGT 948
Db 963 GAAAGAGTACCATACCAAGTACCTGAGAGATCTGATGAAGCCAGTGT 1010

```

RESULT 6
AAZ34785
ID AAZ34785 standard; cDNA; 1080 BP.

XX AC AAZ34785;

XX DT 15-FEB-2000 (first entry)

DE Cat CD86 (B7-2) cDNA.

XX CM86: B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
KW FIV; feline leukaemia virus; feline infectious peritonitis virus;
KW feline panleukopenia virus; feline calicivirus; feline reovirus-3;
KW feline rotavirus; feline coronavirus; feline syncytial virus;
KW feline sarcoma virus; feline herpesvirus; feline Borna disease;
KW rabies-virus; chlamydia; Toxoplasmosis gondii; Dirofilaria immitis;
KW parasite; autoimmune disease; transplant rejection; therapy; ss.

XX

```

OS Fells domesticus.
XX
FH Key Location/Qualifiers
FT CDS 63..1055
FT /tag=a
XX
XX MO9957271-A2.
XX
XX 11-NOV-1999.
XX
XX 30-APR-1999; 99NW-US09502.
XX
XX 01-MAY-1998; 98US-0071699.
XX
XX (TEXAS) TEXAS A & M SYSTEM.
XX
XX COLLISON EM, Hash SM, Choi I;
XX
XX WPI; 2000-052972/04.
XX
XX P-PSDB; AAY32278.
XX
XX Novel feline proteins used to produce feline vaccines which prevent
PT infectious disease or to promote growth in homologous or heterologous
PT species -
XX
XX Claim 6; Fig 3A; 186pp; English.
XX
XX This is the nucleotide sequence of cDNA encoding feline CD86
XX (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
XX peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
XX comprising nucleic acid encoding feline CD86 ligand or feline
XX soluble CD80 ligand is designated PSI-2#19-2/011298 (ATCC 209821).
XX The coexpression of CD86 with the costimulatory molecules CD28 (see
XX AAY32279) and a tumour antigen or an antigen from a pathogenic
XX organism has the ability to activate or enhance activation of
XX T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
XX the ability to regulate activation of T-lymphocytes. The invention
XX provides isolated nucleic acids encoding feline CD86 ligand,
XX feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
XX (CD152) receptor, as well as vectors comprising the nucleic acids,
XX and polypeptides encoded by the nucleic acids. It also provides
XX vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
XX further comprising immunogens derived from pathogens, especially
XX feline immunodeficiency virus (FIV), feline leukaemia virus,
XX feline infectious peritonitis virus, feline panleukopenia virus,
XX feline calicivirus, feline reovirus-3, feline rotavirus, feline
XX coronavirus, feline syncytial virus, feline sarcoma virus, feline
XX herpesvirus, feline Borna disease virus, rabies virus, chlamydia,
XX toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
XX pathogen, or parasite (all claimed). Vaccines capable of
XX enhancing an immune response, and vaccines capable of suppressing
XX an immune response (suitable for treating an autoimmune disease
XX or tissue or organ transplant rejection) are claimed. The
XX nucleic acids may be used for gene therapy or antisense therapy
XX protocols.
XX
XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:
XX
XX
XX Query Match 95.2%; Score 948; DB 21; Length 1080;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ATGGGATTTGTGACAGCACTATGAGACGATCAGTCTCTTGTGATGGCCCTCTG 60
XX ATGGGATTTGTGACAGCACTATGAGACGATCAGTCTCTTGTGATGGCCCTCTG 122
Db 63 ATGGGATTTGTGACAGCACTATGAGACGATCAGTCTCTTGTGATGGCCCTCTG 122
Oy 61 CTCTCTGGTGTTCCTTCATGGAAGTCAAGCATATTTTCAACAGACTGGAGACTGCCA 120
Db 123 CTCTCTGGTGTTCCTTCATGGAAGTCAAGCATATTTTCAACAGACTGGAGACTGCCA 182
Oy 121 TGCCATTTTACAAACCTCAAAACATTAAGCCGTGAGAGCTGTATTTTGGCAGGAC 180
Db 183 TGCCATTTTACAAACCTCAAAACATTAAGCCGTGAGAGCTGTATTTTGGCAGGAC 242

```

```

QY 181 CAGATTAACCTGTTCTGATGAGATATTCAGAGCAAGACCTCAAAATGTCAT 240
    |||
Db 243 CAGGATTAACCTGTTCTGATGAGATATTCAGAGCAAGACCTCAAAATGTCAT 302
QY 241 CTCGAATATTAAGGGCGGTACAAAGCTTTGACAAGACCACTGACCTGCACAT 300
    |||
Db 303 CTCGAATATTAAGGGCGGTACAAAGCTTTGACAAGACCACTGACCTGCACAT 362
QY 301 GTTCAGATCAAGGACAGGGCACATATCATCTGTTTCATTATTAAGGGCCCAAGGA 360
    |||
Db 363 GTTCAGATCAAGGACAGGGCACATATCATCTGTTTCATTATTAAGGGCCCAAGGA 422
QY 361 CTAGTCCCATGACACCAATAGAGTCTGACATCATGAGTCTGACATCTGACATCACT 420
    |||
Db 423 CTAGTCCCATGACACCAATAGAGTCTGACATCATGAGTCTGACATCTGACATCACT 482
QY 421 GAAATTAACAGTAAGTCTTAATAGAACAGAAATCTGGCATCATAAATTTGACCTGCTCA 480
    |||
Db 483 GAAATTAACAGTAAGTCTTAATAGAACAGAAATCTGGCATCATAAATTTGACCTGCTCA 542
QY 481 TCTATTAAGGTTTACCCCAAGCTTAAGAGATGATATTTTACCTAAACCTGAGATTTCA 540
    |||
Db 543 TCTATTAAGGTTTACCCCAAGCTTAAGAGATGATATTTTACCTAAACCTGAGATTTCA 602
QY 541 ACTACTAAGTATGATGATGCTCATGAGAATCTCAAAATATGATGACAGAACTGTACAAC 600
    |||
Db 603 ACTACTAAGTATGATGATGCTCATGAGAATCTCAAAATATGATGACAGAACTGTACAAC 662
QY 601 GTTTCATGACCTGCTCTTTTCACTGCTGCTGAGACACACATGAGAGCTCTTTTGTGCC 660
    |||
Db 663 GTTTCATGACCTGCTCTTTTCACTGCTGCTGAGACACACATGAGAGCTCTTTTGTGCC 722
QY 661 CTGAACCTGAGACATGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 720
    |||
Db 723 CTGAACCTGAGACATGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 782
QY 721 AAGGATTAAGACCTGTAAGAGAGGACCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 780
    |||
Db 783 AAGGATTAAGACCTGTAAGAGAGGACCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 842
QY 781 GTTGTGTTTGTGGAGTGTCTCTTTAAACACTAAGGAGAAAGAGAGAGAGAGAGAGAGCT 840
    |||
Db 843 GTTGTGTTTGTGGAGTGTCTCTTTAAACACTAAGGAGAAAGAGAGAGAGAGAGAGAGCT 902
QY 841 GGCCCTCTCATGATGATGTAAGACCAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGCT 900
    |||
Db 903 GGCCCTCTCATGATGATGTAAGACCAATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGCT 962
QY 901 GAAAGATACCATACCATGACCTGACATGATGATGATGATGATGATGATGATGATGATGAT 948
    |||
Db 963 GAAAGATACCATACCATGACCTGACATGATGATGATGATGATGATGATGATGATGATGAT 1010

```

```

RESULT 7
AAL46840
ID AAL46840 standard; cDNA; 1080 BP.
XX
AC AAL46840;
XX
DT 08-AUG-2002 (first entry)
XX
DE Feline CD86 coding sequence.
XX
KW Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
KW feline immunodeficiency disease; feline infectious peritonitis;
KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
KW virulence; immunomodulator; cytostatic; immunodeficiency; gene; ss.
OS
XX Fells catus.
XX
PN US2002051792-A1.
XX

```

```

PD 02-MAY-2002.
XX
XX 30-APR-1999; 99US-0303040.
XX
XX 01-MAY-1998; 98US-083870P.
XX
XX (WINS/) WINSLOW B J.
XX (COCH/) COCHRAN M D.
XX
XX Winslow BJ, Cochran MD;
XX
XX WPI: 2002-415200/44.
XX P-PSDB: AAO17734.
XX
XX New recombinant virus, useful for immunizing felines to prevent or
XX treat feline immunodeficiency virus, comprises foreign nucleic acid
XX encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
XX CD86 or CTLA-4.
XX
XX Disclosure; Fig 3; 77pp; English.
XX
XX The present invention relates to a recombinant virus comprising at least
XX one foreign nucleic acid encoding a protein selected from feline
XX cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
XX which is capable of expression when the virus is introduced into an
XX appropriate host. The virus can be administered to the feline in order to
XX elicit or enhance an immune response to prevent or treat feline
XX immunodeficiency disease, feline leukemia, feline infectious peritonitis,
XX cancers, degenerative and autoimmune diseases and immunodeficiency. The
XX present sequence is the coding sequence of a cytotoxic T lymphocyte
XX accessory molecule described in the exemplification of the invention.
XX
XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
XX
XX Query Match 95.2%; Score 948; DB 24; Length 1080;
XX Best Local Similarity 100.0%; Pred. No. 0;
XX Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 AAGGCAATTTGACAGCAGTATGAGGAGTGTGACACTGCTGCTGAGAGGCGCTCTG 60
    |||
Db 63 AAGGCAATTTGACAGCAGTATGAGGAGTGTGACACTGCTGCTGAGAGGCGCTCTG 122
QY 61 CTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGACTGAGAGACTGCCA 120
    |||
Db 123 CTCTGTGTTTCTTCCATGAGAGTCAAGCATATTTCAACAAGACTGAGAGACTGCCA 182
QY 121 TGCCATTTTACAACTCTCAAAACATAAGCCTGATGAGCTGTGATATTTTGGCAGGAC 180
    |||
Db 183 TGCCATTTTACAACTCTCAAAACATAAGCCTGATGAGCTGTGATATTTTGGCAGGAC 242
QY 181 CAGGATTAAGCTGTTCTGATGAGATATTCAGAGCAAGAGAAACCTCAAAATGTTCAT 240
    |||
Db 243 CAGGATTAAGCTGTTCTGATGAGATATTCAGAGCAAGAGAAACCTCAAAATGTTCAT 302
QY 241 CTCGAATATTAAGGGCGGTACAAAGCTTTGACAAGACCACTGAGACTGCACAT 300
    |||
Db 303 CTCGAATATTAAGGGCGGTACAAAGCTTTGACAAGACCACTGAGACTGCACAT 362
QY 301 GTTCAGATCAAGGACAGGGCACATATCATCTGTTTCATTATTAAGGGCCCAAGGA 360
    |||
Db 363 GTTCAGATCAAGGACAGGGCACATATCATCTGTTTCATTATTAAGGGCCCAAGGA 422
QY 361 CTAGTCCCATGACACCAATAGAGTCTGACATCATGAGTCTGACATCTGACATCACT 420
    |||
Db 423 CTAGTCCCATGACACCAATAGAGTCTGACATCATGAGTCTGACATCTGACATCACT 482
QY 421 GAAATTAACAGTAAGTCTTAATAGAACAGAAATCTGGCATCATAAATTTGACCTGCTCA 480
    |||
Db 483 GAAATTAACAGTAAGTCTTAATAGAACAGAAATCTGGCATCATAAATTTGACCTGCTCA 542
QY 481 TCTATTAAGGTTTACCCCAAGCTTAAGAGATGATATTTTACCTAAACCTGAGATTTCA 540
    |||
Db 543 TCTATTAAGGTTTACCCCAAGCTTAAGAGATGATATTTTACCTAAACCTGAGATTTCA 602

```

```

OY 541 ACTACTAGTATGATCTGTATGTAAGAATCTCAAAATTAATGTGACAGAACTGTACAC 600
DB 603 ACTACTAGTATGATCTGTATGTAAGAATCTCAAAATTAATGTGACAGAACTGTACAC 662
OY 601 GTTCTATCAGCTTCCCTTTTTCAGTCCCTGAGACACCAATGTGAGCTTTTGTGGC 660
DB 663 GTTCTATCAGCTTCCCTTTTTCAGTCCCTGAGACACCAATGTGAGCTTTTGTGGC 722
OY 661 CTGAAGTGAAGACACTGAGATGCTGCTCCCTACTTTCATATATGATGACCAACT 720
DB 723 CTGAAGTGAAGACACTGAGATGCTGCTCCCTACTTTCATATATGATGACCAACT 782
OY 721 AAGATTAAGACCTGGAACCAAGGCCACTCTCTGATTTGGCGCTGTACTTGTATGTT 780
DB 783 AAGATTAAGACCTGGAACCAAGGCCACTCTCTGATTTGGCGCTGTACTTGTATGTT 842
OY 781 GTTGTTTTGTGAGATGCTGCTCTTTAAACACTAAGGAAAGGAAAGACAGAGCT 840
DB 843 GTTGTTTTGTGAGATGCTGCTCTTTAAACACTAAGGAAAGGAAAGACAGAGCT 902
OY 841 GGCCTCTCATGATGTGAACCATCAAAAGGAGAGAGAAAGAGACCAAGACCAAC 900
DB 903 GGCCTCTCATGATGTGAACCATCAAAAGGAGAGAGAAAGAGACCAAGACCAAC 962
OY 901 GAAAGATGACATACACGCTACCTGAGAGATCTGATGAAGCCAGCTG 948
DB 963 GAAAGATGACATACACGCTACCTGAGAGATCTGATGAAGCCAGCTG 1010

```

RESULT 8
ABK48230

ID ABR48230 standard; CDNA: 1080 BP.

AC ABR48230;

DT 02-JUL-2002 (first entry)

DE CDNA encoding feline CD86 protein.

XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 KW feline infectious peritonitis; gene; ss: CD80 ligand; CD86 ligand;
 KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 KW feline leukaemia; FELV; calicivirus; rotavirus; reovirus type 3;
 KW coronavirus; herpes; borna disease.

OS Felis sp.

XX Key Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a
 FT /product= "CD86 protein"

PN US2002028208-A1.

XX 07-MAR-2002.

XX 30-APR-1999; 99US-0303510.

XX 01-MAY-1998; 98US-083869P.

XX (COLL.) COLLISSON E W.

XX (HASH/) HASH S M.

XX (CHOI/) CHOI I.

XX COLLISSON EW, Hash SM, Choi I;

XX WPI: 2002-315045/35.

XX P-PSDB: AAU78121.

PT Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 receptor or CTLA-4 receptor as vaccine for inducing immune response in

PT feline suffering from autoimmune disease or tissue or organ transplant
 PT
 PS Claim 6; Fig 3A; 73pp; English.

XX This invention relates to the DNA and protein sequences encoding a
 CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 CC invention also relates to a vaccine comprising an effective amount of
 CC these receptor proteins. A vaccine is useful for inducing immunity or
 CC enhancing an immune response in a cat. The protein sequences of the
 CC invention are useful for suppressing an immune response in a feline
 CC suffering from an autoimmune disease or the recipient of a tissue or
 CC organ transplant. A vector containing the DNA sequence of the
 CC invention is useful for redirecting an immune response in a feline to an
 CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 CC flea, feline immunodeficiency virus, feline leukaemia (FELV), feline
 CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
 CC sarcoma virus, borna disease virus or a parasite. The protein sequences
 CC may be further utilised to promote growth in homologous or heterologous
 CC feline species. Enhancement of immunity through the interaction of
 CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 CC immune response through the interaction of feline CD80 or CD86 with
 CC CTLA-4 takes advantage of the natural process of regulation rather than
 CC adding foreign substances that could have multiple, even detrimental
 CC effects on overall or long term health. The present sequence represents
 CC a cDNA encoding the feline CD86 protein of the invention.

XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

XX Query Match 95.2%; Score 948; DB 24; Length 1080;

XX Best Local Similarity 100.0%; Pred. No. 0;

XX Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

OY 1 ATGGCATTTTGTGACAGACATATGAGCTGATGACATCTCTTGTGATGAGCCCTCTCG 60
DB 63 ATGGCATTTTGTGACAGACATATGAGCTGATGACATCTCTTGTGATGAGCCCTCTCG 122
OY 61 CTCTGTGGTGTCTTCGATGAAGATCAAGCATTTTCAACAAGACGAGACAGCCCA 120
DB 123 CTCTGTGGTGTCTTCGATGAAGATCAAGCATTTTCAACAAGACGAGACAGCCCA 182
OY 121 TGCCATTTTACAACACTCTCAAAACATTAAGCCTGATGAGCTGTATTTTGGCAGGAC 180
DB 183 TGCCATTTTACAACACTCTCAAAACATTAAGCCTGATGAGCTGTATTTTGGCAGGAC 242
OY 181 CAGGATTAAGCTGGTCTGTATGATGATTCAGAGGCAAGGCAAGACCTCAAAATGTTCA 240
DB 243 CAGGATTAAGCTGGTCTGTATGATGATTCAGAGGCAAGGCAAGACCTCAAAATGTTCA 302
OY 241 CTCGAATATTAAGGCGCTCAAGCTTTCAGAGGCAAGCACTGAGACCTGAGATCCACAT 300
DB 303 CTCGAATATTAAGGCGCTCAAGCTTTCAGAGGCAAGCACTGAGACCTGAGATCCACAT 362
OY 301 GTTCAGATCAAGGACAAAGGCAATATACAGTGTTCATTCATTATTAAGGCGCCCAAGGA 360
DB 363 GTTCAGATCAAGGACAAAGGCAATATACAGTGTTCATTCATTATTAAGGCGCCCAAGGA 422
OY 361 CTAGTTCCTATGACCAAAATGAGTTGTGACCTATACAGTGTCTGTAATCTTCACTACCT 420
DB 423 CTAGTTCCTATGACCAAAATGAGTTGTGACCTATACAGTGTCTGTAATCTTCACTACCT 482
OY 421 GAAATTAAGCTAGCTCTAATGAACAGAAATTCGATCATATAATTTGACCTGCATCA 480
DB 483 GAAATTAAGCTAGCTCTAATGAACAGAAATTCGATCATATAATTTGACCTGCATCA 542
OY 481 TCTATCAAGGTTACCAAGACCTAAGAGATGATTTTCACTAAACACTGAGATTCGA 540
DB 543 TCTATCAAGGTTACCAAGACCTAAGAGATGATTTTCACTAAACACTGAGATTCGA 602
OY 541 ACTACTAGTATGATCTGTATGTAAGAATCTCAAAATTAATGTGACAGAACTGTACAC 600

```

Db 603 ACTACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAAAC 662
 QY 601 GTTTCATACGCTTGCCCTTTTTCAGTCCCTGAGACACACAATGTGACCGTCTTTGTGCC 660
 Db 663 GTTTCATACGCTTGCCCTTTTTCAGTCCCTGAGACACACAATGTGACCGTCTTTGTGCC 722
 QY 661 CTGAACTGAGACACTGGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACTT 720
 Db 723 CTGAACTGAGACACTGGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACTT 782
 QY 721 AAGGATAAAGACCTGAAACAAGGCCACTTCTGTGATGGCGCTGACTGTGAATGTTT 780
 Db 783 AAGGATAAAGACCTGAAACAAGGCCACTTCTGTGATGGCGCTGACTGTGAATGTTT 842
 QY 781 GTTGTGTTTTGTGGATGCTGCTTTTAAACACTAAGAAAGAAAGAAAGAACAGCAGCT 840
 Db 843 GTTGTGTTTTGTGGATGCTGCTTTTAAACACTAAGAAAGAAAGAAAGAACAGCAGCT 902
 QY 841 GGGCCCTTCATGAAATGTGAACATCAAAAGGAGAGAAAGAACAGCAGCCT 900
 Db 903 GGGCCCTTCATGAAATGTGAACATCAAAAGGAGAGAAAGAACAGCAGCAGCCT 962
 QY 901 GAAAGAGTACCATACCACTACCTGAGAGATGTGATGAAGCCAGTGT 948
 Db 963 GAAAGAGTACCATACCACTACCTGAGAGATGTGATGAAGCCAGTGT 1010

RESULT 9
 AA227933
 ID AA227933 standard; DNA; 509 BP.

AC AA227933;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein (larger fragment) encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN MO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AA41080.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 125-126; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX SQ Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;
 Query Match 51.1%; Score 509; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 2,4e-242;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 484 ATACAGTTTACCCAGAACCTAAGAGATGTTTTCAGTCACTAAGACAGAAATTCACCT 543
 Db 1 ATACAGTTTACCCAGAACCTAAGAGATGTTTTCAGTCACTAAGACAGAAATTCACCT 60
 QY 544 ACTAAGTATGATATGTCATGTAAGAATCTCAAAATATGTCAGACAGAACTGTACACGTT 603
 Db 61 ACTAAGTATGATATGTCATGTAAGAATCTCAAAATATGTCAGACAGAACTGTACACGTT 120
 QY 604 TCTATCAGCTTCCCTTTTTCAGTCCCTTAAGACACAAATGTGAGCGTCTTTTGTGCCCTG 663
 Db 121 TCTATCAGCTTCCCTTTTTCAGTCCCTTAAGACACAAATGTGAGCGTCTTTTGTGCCCTG 180
 QY 664 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTCATATATGATGACACAACTTAAG 723
 Db 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTCATATATGATGACACAACTTAAG 240
 QY 724 GATTAAGACCTGAAACAAGGCCACTTCTGTGATTTGGCGCTGATCTGTATGTTGTT 783
 Db 241 GATTAAGACCTGAAACAAGGCCACTTCTGTGATTTGGCGCTGATCTGTATGTTGTT 300
 QY 784 GTTGTGTTTTGTGGATGCTGCTTTTAAACACTAAGAAAGAAAGAACAGCAGCCTGCGC 843
 Db 301 GTTGTGTTTTGTGGATGCTGCTTTTAAACACTAAGAAAGAAAGAACAGCAGCCTGCGC 360
 QY 844 CCCTCTCATGATGTGAACCATCAAAAGGAGAGAAAGAACAGCAGCAGCAGCA 903
 Db 361 CCCTCTCATGATGTGAACCATCAAAAGGAGAGAAAGAACAGCAGCAGCAGCA 420
 QY 904 AGAGTACCATACCACTGACGATCTGATGTAAGGCCAGTGTATTACATTTTGAAG 963
 Db 421 AGAGTACCATACCACTGACGATCTGATGTAAGGCCAGTGTATTACATTTTGAAG 480
 QY 964 ACAGCCTCAGGAGACAAAGTACTACACA 992
 Db 481 ACAGCCTCAGGAGACAAAGTACTACACA 509

RESULT 10
 AA227934/C
 ID AA227934 standard; DNA; 509 BP.

AC AA227934;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 gene (larger fragment) complementary DNA sequence.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN MO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 XX Claim 1; Page 127; 148pp; English.
 PS
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 Query Match 51.1%; Score 509; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 2,4e-242;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 484 ATACAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTAAACACTGAGAATTCACCT 543
 DB 509 ATACAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTAAACACTGAGAATTCACCT 450
 QY 544 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACAGACTTACACGTT 603
 DB 449 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACAGACTTACACGTT 390
 QY 604 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTGAGCGTCTTTTGCCCTG 663
 DB 389 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTGAGCGTCTTTTGCCCTG 330
 QY 664 AACCTGAGACACCTGAGATGTGCTCCCTACCTTCATATGATGACACAACTAG 723
 DB 329 AACCTGAGACACCTGAGATGTGCTCCCTACCTTCATATGATGACACAACTAG 270
 QY 724 GATAAAGACCCCTGACAAAGGCGCCTCTGATTCGGCGTACTGTATGTTTGT 783
 DB 269 GATAAAGACCCCTGACAAAGGCGCCTCTGATTCGGCGTACTGTATGTTTGT 210
 QY 784 GTTTTTTGGGATGGTGTCTTTTAAACACTAAGGAAAGAGAGACGACGCTGGC 843
 DB 209 GTTTTTTGGGATGGTGTCTTTTAAACACTAAGGAAAGAGAGACGACGCTGGC 150
 QY 844 CCCTCTCATGATGTGAAACCTCAAAAGGAGAGAAAGAGACAAACACCAACGAA 903
 DB 149 CCCTCTCATGATGTGAAACCTCAAAAGGAGAGAAAGAGACAAACACCAACGAA 90
 QY 904 ACAGTACCATACACGATGAGAGATCTGATGAAAGCCAGTATTAACTTTTGAAG 963
 DB 89 ACAGTACCATACACGATGAGAGATCTGATGAAAGCCAGTATTAACTTTTGAAG 30
 QY 964 ACAGCCTCAGGCGACAAAGTACTACACA 992
 DB 29 ACAGCCTCAGGCGACAAAGTACTACACA 1
 RESULT 11
 AA27935
 ID AA27935 standard; DNA: 359 BP.
 XX
 AC AA27935;
 XX
 XX 20-DEC-1999 (first entry)
 DE
 XX Feline B7-2 protein (smaller fragment) encoding DNA.
 DE
 XX B7; CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX
 OS Fells catus.
 XX
 PN W09947558-A2.
 XX
 XX 23-SEP-1999.
 PD
 XX
 PF 19-MAR-1999; 99WO-US06187.
 XX
 PR 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI: 1999-571822/48.
 DR P-PSDB; AA141081.
 XX
 XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 127-128; 148pp; English.
 XX
 CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX
 SQ Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
 Query Match 22.8%; Score 227; DB 20; Length 359;
 Best Local Similarity 100.0%; Pred. No. 2.3e-102;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 484 ATACAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTAAACACTGAGAATTCACCT 543
 DB 1 ATACAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTAAACACTGAGAATTCACCT 60
 QY 544 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACAGACTTACACGTT 603
 DB 61 ACTAGTATGATCTGTCATGAGAAATCTCAAAATATGTGACAGACTTACACGTT 120
 QY 604 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTGAGCGTCTTTTGCCCTG 663
 DB 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAGACACAAATGTGAGCGTCTTTTGCCCTG 180
 QY 664 AACCTGAGACACCTGAGATGTGCTCCCTACCTTCATATGATA 710
 DB 181 AACCTGAGACACCTGAGATGTGCTCCCTACCTTCATATGATA 227
 RESULT 12
 AA27936/c
 ID AA27936 standard; DNA: 359 BP.
 XX
 AC AA27936;
 XX
 XX 20-DEC-1999 (first entry)
 DE
 XX Feline B7-2 gene (smaller fragment) complementary DNA sequence.
 DE
 XX B7; CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Fells catus.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
XX
PS Claim 1; Page 115; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 840;
Best Local Similarity 100.0%; Pred. No. 5.6e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 133
DB 770 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 711
OY 134 A 134
DB 710 A 710
XX
RESULT 15
AA227915
ID AA227915 standard; DNA; 987 BP.
XX
AC AA227915;
XX
DT 20-DEC-1999 (first entry)
XX
DE Canine B7-2 protein coding sequence.
XX
KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX OS
XX PN WO947558-A2.
XX PD 23-SEP-1999.
XX PF 19-MAR-1999; 99WO-US06187.
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX PA (HESK-) HESKA CORP.
XX PI Sim G, Yang S, Sellins KS;
XX DR WPI: 1999-571822/48.
XX DR P-PSDB; AAY41076.
XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX PT treating, e.g. autoimmune and atopic diseases
XX PS Claim 1; Page 102-103; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
SQ Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 133
DB 71 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 130
OY 134 A 134
DB 131 A 131
XX
RESULT 16
AA227916/c
ID AA227916 standard; DNA; 987 BP.
XX
AC AA227916;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of canine B7-2 coding sequence.
XX
KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX OS
XX PN WO947558-A2.
XX PD 23-SEP-1999.
XX PF 19-MAR-1999; 99WO-US06187.
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX PA (HESK-) HESKA CORP.
XX PI Sim G, Yang S, Sellins KS;
XX DR WPI: 1999-571822/48.
XX DR 1999-571822/48.
XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX PT treating, e.g. autoimmune and atopic diseases
XX PS Claim 1; Page 103-104; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
XX
Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 133
DB 111 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 111

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
XX
SQ Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;
XX

Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 74 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 133
DB 71 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 130

OY 134 A 134
DB 131 A 131

RESULT 16
AA227916/c
ID AA227916 standard; DNA; 987 BP.
XX
AC AA227916;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of canine B7-2 coding sequence.
XX
KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; canine;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
XX OS
XX PN WO947558-A2.
XX PD 23-SEP-1999.
XX PF 19-MAR-1999; 99WO-US06187.
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX PA (HESK-) HESKA CORP.
XX PI Sim G, Yang S, Sellins KS;
XX DR WPI: 1999-571822/48.
XX DR 1999-571822/48.
XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX PT treating, e.g. autoimmune and atopic diseases
XX PS Claim 1; Page 103-104; 148pp; English.
XX

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
XX

Query Match 6.1%; Score 61; DB 20; Length 987;
Best Local Similarity 100.0%; Pred. No. 5.5e-20;
Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 74 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 133
DB 111 CTTCGATGAGAGTCACGATATTTCACAGAGCTGGAGACTGCCATGCAATTTTACAA 111

DB 917 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTTACAA 858
OY 134 A 134
DB 857 A 857

RESULT 17
AAZ27921
ID AAZ27921 standard; DNA: 1795 BP.

AC AAZ27921;

DT 20-DEC-1999 (first entry)

DE Canine B7-2S protein encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; canine;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AAY41078.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 109-111; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.

SQ Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

Query Match 6.1%; Score 61; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 5.5e-20;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 74 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTTACAA 133
DB 77 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTTACAA 136

OY 134 A 134

DB 137 A 137

RESULT 18

AAZ27922/C
ID AAZ27922 standard; DNA: 1795 BP.

AC AAZ27922;
XX 20-DEC-1999 (first entry)
DT Canine B7-2S gene complementary DNA sequence.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; canine;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 112-114; 148pp; English.

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.

SQ Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;

Query Match 6.1%; Score 61; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 5.5e-20;

Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 74 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTTACAA 133
DB 1719 CTTCCATGAGAGTCACATATTTTCAACAAGACTGAGAACTGCCATTTTACAA 1660

OY 134 A 134

DB 1659 A 1659

RESULT 19

AAZ27913
ID AAZ27913 standard; DNA: 1897 BP.

AC AAZ27913;

DT 20-DEC-1999 (first entry)

DE Canine B7-2 protein encoding DNA.

KW B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
allergic reaction; infectious disease; tumor development; canine;
graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Canis familiaris.

PN WO9947558-A2.
 XX 23-SEP-1999.
 PD 19-MAR-1999; 99WO-US06187.
 XX PF 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESKA CORP.
 XX PI Sim G, Yang S, Sellins KS;
 XX WPI, 1999-571822/48.
 DR P-PSDB; AAI41076.
 XX PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 XX PS Claim 1; Page 97-99; 148pp; English.
 XX CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 XX CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 XX CC expressed by standard recombinant methodology. The nucleic acid molecules
 XX CC and the encoded proteins can be used for preventing or treating diseases,
 XX CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 XX CC development, graft rejection, inflammation, arthritic and atopic diseases
 XX CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 XX CC cats, cattle, sheep or pets. The products can also be used for detection,
 XX CC diagnosis and drug screening.
 XX SQ Sequence 1897 BP; 585 A; 400 C; 383 G; 529 T; 0 other;
 XX
 Query Match 6.1%; Score 61; DB 20; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 5.5e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 74 CTTCCATGAGAGCTCAACATATTTCACAGAGCTGAGAACTGCCATTTTACAA 133
 DB 76 CTTCCATGAGAGCTCAACATATTTCACAGAGCTGAGAACTGCCATTTTACAA 135
 QY 134 A 134
 DB 136 A 136
 DB 136 A 136
 RESULT 20
 AA227914/c
 ID AA227914 standard; DNA; 1897 BP.
 XX AA227914;
 XX 20-DEC-1999 (first entry)
 DE Canine B7-2 gene complementary DNA sequence.
 XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX Canis familiaris.
 OS WO9947558-A2.
 PN 23-SEP-1999.
 PD 19-MAR-1999; 99WO-US06187.
 XX PF 19-MAR-1998; 98US-0078765.
 XX PR 17-APR-1998; 98US-0062597.
 XX PA (HESKA CORP.
 XX PI HESKA CORP.

PI Sim G, Yang S, Sellins KS;
 XX WPI, 1999-571822/48.
 DR New isolated B7 and CTLA4 nucleic acids, used to develop products for
 XX treating, e.g. autoimmune and atopic diseases
 XX PT Claim 1; Page 101-102; 148pp; English.
 XX PS The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 XX CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 XX CC expressed by standard recombinant methodology. The nucleic acid molecules
 XX CC and the encoded proteins can be used for preventing or treating diseases,
 XX CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 XX CC development, graft rejection, inflammation, arthritic and atopic diseases
 XX CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 XX CC cats, cattle, sheep or pets. The products can also be used for detection,
 XX CC diagnosis and drug screening.
 XX SQ Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
 XX
 Query Match 6.1%; Score 61; DB 20; Length 1897;
 Best Local Similarity 100.0%; Pred. No. 5.5e-20;
 Matches 61; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 74 CTTCCATGAGAGCTCAACATATTTCACAGAGCTGAGAACTGCCATTTTACAA 133
 DB 1822 CTTCCATGAGAGCTCAACATATTTCACAGAGCTGAGAACTGCCATTTTACAA 1763
 QY 134 A 134
 DB 1762 A 1762
 DB 1762 A 1762
 RESULT 21
 AAT62939
 ID AAT62939 standard; DNA; 764 BP.
 XX AAT62939;
 XX 16-JUN-1997 (first entry)
 DE Chimeric human/porcine CD86 DNA construct.
 XX Xenotransplantation; graft rejection; cell interaction; pig;
 KW CD86; monoclonal antibody; chimeric antibody; diagnosis; ss.
 XX Chimeric Homo sapiens;
 OS Chimeric Sus scrofa.
 XX Key Location/Qualifiers
 FH CDS 7..749
 FT /*tag= a
 FT /note= "the porcine CD86 sequence spans
 FT sig_peptide 7..81
 FT mat_peptide 82..756
 FT /*tag= c
 PN WO9711971-A1.
 PD 03-APR-1997.
 PD 27-SEP-1996; 96WO-US15575.
 XX PF 26-SEP-1996; 96US-0004489.
 XX PR 28-SEP-1995; 95US-0004489.
 XX (ALEX-) ALEXION PHARM INC.
 XX Evans MJ, Matlis LA, Mueller EE, Mueller JP, Rollins S;
 XX Rother RP;

```

XX  WPI: 1997-212855/19.
DR  P-PSDB: AAM14944.
XX
PT  Antibodies binding to porcine but not human cell interaction
PT  proteins - useful to treat and assay for rejection of xenografted
XX  porcine organs, tissues or cells
XX
PS  Disclosure: Page 69-70; 105pp; English.
XX
CC  A DNA construct (AAT62939) codes for a chimeric human/porcine
CC  CD86 (B7-2) cell adhesion molecule. RT-PCR was used to amplify
CC  an internal segment of the porcine CD86 gene from RNA isolated
CC  from lymphocytes. A second PCR fragment encoding a truncated N-terminus
CC  was prep'd. by 5'RACE PCR. The partial gene fragment was fused to
CC  the C-terminal 49 amino acids of the human CD86 IGC domain by
CC  overlapping PCR; the 3' primer included 15 nucleotides encoding a
CC  histidine tag. Antibodies to porcine CD86 protein are useful for
CC  diagnosing human rejection of porcine xenotransplants and for
CC  improving xenotransplantation of porcine cells, tissues and organs
CC  into human recipients.
XX
SQ  Sequence 764 BP; 218 A; 197 C; 148 G; 201 T; 0 other;
Query Match 4.9%; Score 49; DB 18; Length 764;
Best Local Similarity 100.0%; Pred. No. 5e-14;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 379 ATGAGTTCTGACCTATCAGTGTGCTTGCCTACTGTCAGTCAACCTGAATAA 427
DB 382 ATGAGTTCTGACCTATCAGTGTGCTTGCCTACTGTCAGTCAACCTGAATAA 430
|||||
|||||

RESULT 22
ID AAA49661 standard; cDNA; 1050 BP.
XX
AC AAA49661;
XX
DT 25-SEP-2000 (first entry)
XX
DE Pig costimulatory molecule CD86 (B7-2) cDNA.
XX
KW Co-stimulatory molecule; CD86; B7-2; pig; immunosuppressive;
KW xenotransplantation; organ transplant; vaccine; ss.
XX
OS Sus scrofa.
XX
FH Key Location/Qualifiers
FT CDS 36..1013
FT tag a
XX
PN WO200037102-A2.
XX
PD 29-JUN-2000.
XX
PE 17-DEC-1999; 99WO-GB04200.
XX
PR 19-DEC-1998; 98GB-0027921.
PR 23-OCT-1999; 99GB-0025015.
XX
PA (MLM-) ML LAB PLC.
XX
PI Lechler RI, Rogers NJ, Dorrington A;
XX
DR WPI: 2000-442537/38.
XX
DR P-PSDB: AAY95321.
XX
PT Novel methods for improving tolerance to a xenograft comprising -
XX immunizing a mammal with a T-cell epitope and a B-cell epitope -
PS Disclosure: Fig 3; 81pp; English.

```

```

XX  The present sequence is that of cDNA clone CD86(1), which encodes
XX  pig co-stimulatory molecule CD86 (B7-2) (see AAY95321). The clone
CC  was obtained by PCR amplification of pig cDNA using primers (see
CC  AAA49662-63) based on a published pig B7-2 sequence. The invention
CC  relates to a novel strategy to inhibit costimulation by porcine
CC  cells of human T cells, with particular importance in the context
CC  of xenotransplantation of porcine organs. Recipients are immunised
CC  with hybrid synthetic peptides comprising a T cell epitope
CC  conjugated to sequences of the porcine costimulatory molecules
CC  CD86 or CD40. Peptides that induce antibodies specific for
CC  regions of costimulatory molecules involved in binding to their
CC  counter-receptors on human cells (CD28 and CD14) are capable of
CC  blocking the delivery of costimulation. Once the antibody response
CC  has been induced, the transplanted organ will recall this response
CC  due to the expression of the costimulatory molecules, thereby
CC  sustaining the response, and providing an endogenous mechanism of
CC  costimulatory blockade. The method is useful for improving the
CC  tolerance of a host to xenografts, particularly porcine pancreatic
XX  islet cells.
XX
SQ  Sequence 1050 BP; 305 A; 260 C; 227 G; 258 T; 0 other;
Query Match 4.9%; Score 49; DB 21; Length 1050;
Best Local Similarity 100.0%; Pred. No. 5e-14;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 379 ATGAGTTCTGACCTATCAGTGTGCTTGCCTACTGTCAGTCAACCTGAATAA 427
DB 393 ATGAGTTCTGACCTATCAGTGTGCTTGCCTACTGTCAGTCAACCTGAATAA 441
|||||
|||||

RESULT 23
ID AAV80293 standard; cDNA; 738 BP.
XX
AC AAV80293;
XX
DT 15-MAR-1999 (first entry)
XX
DE Human B7-2 extracellular domain and linker DNA.
XX
KW Tumour interacting protein; cancer; gene therapy; vector;
KW 5T4 antigen; monoclonal antibody; single chain antibody;
KW mouse; human; B7-2; co-stimulatory molecule; ss.
XX
OS Chimeric - Homo sapiens.
OS Chimeric - synthetic.
XX
PN WO9855607-A2.
XX
PD 10-DEC-1998.
XX
PE 04-JUN-1998; 98WO-GB01627.
XX
PR 04-JUL-1997; 97GB-0014230.
PR 04-JUN-1997; 97GB-0011579.
PR 20-JUN-1997; 97GB-0013150.
XX
PA (OXFO-) OXFORD BIOMEDICA UK LTD.
XX
PI Bebbington CR, Carroll MW, Ellard FM, Kingsman SM;
XX
PI Myers KA;
XX
DR WPI: 1999-059910/05.
XX
DR P-PSDB: AAM86005.
XX
PT New vector encoding a tumour interacting protein for treating cancer
XX - contains a desired nucleotide sequence and/or protein which
XX recognises tumours, and is used as a gene delivery system to treat
XX cancer
PS Example 5; Fig 4; 82pp; English.

```

XX This DNA sequence encodes a polypeptide (see AAW86005) comprising
 CC the extracellular domain (amino acids 1-215) of human co-stimulatory
 CC molecule B7-2 joined to a C-terminal flexible peptide linker. This
 CC is part of the coding sequence of B7-2.574.1 co-stimulatory domain,
 CC a DNA sequence encoding a fusion protein comprising the B7-2
 CC extracellular domain joined via the linker to an scFv (see AAW86002)
 CC derived from murine 574 monoclonal antibody. The cDNA can be
 CC inserted into vector pCI to allow expression of the fusion protein
 CC in mammalian cells. The trophoblast cell surface antigen defined
 CC by 574 is expressed at high levels on the cells of a wide variety
 CC of human tumours. The invention relates to a vector comprising a
 CC nucleotide sequence coding for a tumour interacting protein (TIP)
 CC and optionally a nucleotide sequence of interest (NOI) which
 CC encodes a protein of interest (POI), the vector being capable of
 CC delivering the NOI and/or POI to the tumour recognised by the TIP.
 CC Delivery can be in vivo or ex vivo. The vector is used to treat
 CC cancer, and may also be used as a gene delivery system for
 CC introducing at least 1 gene encoding a TIP (preferably a tumour
 CC binding protein) into a haematopoietic cell lineage. B7-2 is
 CC expected to bind specifically to CD28 and CTLA-4 present on human
 CC T-cells.

SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 20; Length 738;

Best Local Similarity 100.0%; Pred. No. 4.4e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 394 TCAGTGGCTTGCTAACTTCAGTCAACCTGAATA 426

|||||

DB 373 TCACTGCTGCTAACTTCAGTCAACCTGAATA 405

RESULT 24

AAFB9731

ID AAFB9731 standard; DNA; 738 BP.

XX AAFB9731;

DT 23-JUL-2001 (first entry)

XX Nucleotide sequence of a B7-2.574.1 fusion protein.

XX Single chain antibody; scFv; inflammatory disease; arthritis; cancer;
 KW hyperensitivity; autoimmune disease; central nervous system disorder;
 KW Parkinson's disease; periodontal disease; cardiopulmonary disease;
 KW cardiovascular disease; gastrointestinal disorder; infection; diabetes;
 KW Helicobacter-related disease; immune disorder; ss.

XX Synthetic.

OS Mus sp.

OS Homo sapiens.

XX Key Location/Qualifiers

FT CDS 1..738

FT /*tag= a

XX MO200136486-A2.

XX 25-MAY-2001.

XX PD 13-NOV-2000; 2000WO-GB04317.

XX PF 13-NOV-2000; 2000WO-GB04317.

XX PR 18-NOV-1999; 99WO-GB03859.

XX PR 15-FEB-2000; 2000GB-0003527.

XX PR 02-MAR-2000; 2000GB-0005071.

XX PA (OXFO-) OXFORD BIOMEDICA UK LTD.

XX PI Kingsman A, Kingsman SM, Bebbington CR, Carroll MW, Ellard FM,

XX PI Myers KA;

DR WPI; 2001-343805/36.

XX Use of single chain antibody capable of recognizing a disease
 PT associated molecule for manufacturing a medicament for preventing
 PT and/or treating a disease condition associated with disease associated
 PT molecule
 XX Example 3; Fig 4; 118pp; English.

XX The specification describes the use of a single chain antibody (scFv),
 CC which is capable of recognizing a disease associated molecule in the
 CC manufacture of a medicament for the prevention and treatment of a
 CC disease condition. The scFv antibody is useful in the manufacture of
 CC a medicament, for affecting a disease in vivo, for preparing a
 CC pharmaceutical composition, for in vivo imaging and/or for adjuvant
 CC treatment of a disease. The scFv antibody is also useful for
 CC treating inflammatory diseases including arthritis, hypersensitivity,
 CC autoimmune diseases, cancers, central nervous system disorders
 CC including Parkinson's disease, periodontal diseases, cardiopulmonary
 CC diseases, cardiovascular diseases, gastrointestinal disorders,
 CC infections, diabetes, Helicobacter-related diseases, and other immune
 CC disorders. The present sequence encodes a B7-2.574.1 fusion protein.
 CC This comprises the N-terminus of the 574 scFv is fused after amino acid
 CC 215 of human B7-2.

SQ Sequence 738 BP; 215 A; 168 C; 148 G; 207 T; 0 other;

Query Match 3.3%; Score 33; DB 22; Length 738;

Best Local Similarity 100.0%; Pred. No. 4.4e-06;

Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 394 TCAGTGGCTTGCTAACTTCAGTCAACCTGAATA 426

|||||

DB 373 TCACTGCTGCTAACTTCAGTCAACCTGAATA 405

RESULT 25

AAV03230

ID AAV03230 standard; cDNA; 831 BP.

XX AAV03230;

DT 22-JUN-1998 (first entry)

XX DNA encoding CD86 extracellular domain in CD86rcalphatp1ink.

XX Hexameric fusion protein: IGA; alpha-tp; tailpiece; antibody;

KW CD86; CD28; CTLA-4; vaccine; diagnosis; binding assay; screening;

KW human; ds.

XX Homo sapiens.

OS Homo sapiens.

XX Key Location/Qualifiers

FT sig_peptide 52..126

FT /*tag= a

FT mat_peptide 127..831

FT /*tag= b

XX WO9747732-A2.

XX 18-DEC-1997.

XX PD 13-JUN-1997; 97WO-US12599.

XX PF 21-FEB-1997; 97US-0038915.

XX PR 14-JUN-1996; 96US-0019934.

XX PR 19-FEB-1997; 97US-0043948.

XX PA (SMK) SMITHKLINE BEECHAM CORP.

XX PI Chaikin MA, Lyn SDP, Sweet RW, Truneh A;

XX WPI; 1998-052299/05.

GenCore version 5.1.4-P5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 131.145 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996

Sequence: 1 atggcatttgacagcac.....acaaagatcacatttt 996

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published_Applications_MA:*

- 1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
- 2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
- 3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
- 4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
- 5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
- 6: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUBCOMB.seq:*
- 7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
- 8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
- 9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
- 10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
- 11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
- 12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
- 13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
- 14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	948	95.2	1080	10 US-09-303-510-5	Sequence 5, Appli
2	948	95.2	1080	10 US-09-303-040-5	Sequence 5, Appli
3	33	3.3	551	9 US-09-796-692-7817	Sequence 7817, Ap
4	33	3.3	598	9 US-09-796-692-7754	Sequence 7754, Ap
5	33	3.3	751	9 US-10-105-200A-34	Sequence 34, Appli
6	33	3.3	831	10 US-09-845-899A-4	Sequence 4, Appli
7	33	3.3	972	9 US-09-826-025-11	Sequence 11, Appli
8	33	3.3	1002	9 US-10-105-200A-33	Sequence 33, Appli
9	33	3.3	1056	10 US-09-756-983-17	Sequence 17, Appli
10	33	3.3	1112	9 US-09-441-411-25	Sequence 25, Appli
11	33	3.3	1120	8 US-08-592-711-3	Sequence 3, Appli
12	33	3.3	1120	9 US-09-962-969-22	Sequence 22, Appli
13	33	3.3	1120	10 US-09-837-867A-22	Sequence 22, Appli
14	33	3.3	1161	9 US-09-962-969-24	Sequence 24, Appli
15	33	3.3	1161	10 US-09-837-867A-24	Sequence 24, Appli
16	33	3.3	1424	9 US-09-954-531-366	Sequence 366, App
17	33	3.3	1424	9 US-09-441-411-21	Sequence 21, Appli
18	33	3.3	1424	10 US-09-962-969-556	Sequence 556, App
19	30	3.0	195	9 US-09-962-969-41	Sequence 41, Appli

20	30	3.0	195	10 US-09-837-867A-41	Sequence 41, Appli
21	28	2.8	28	10 US-09-303-510-32	Sequence 32, Appli
22	28	2.8	28	10 US-09-303-040-32	Sequence 32, Appli
23	28	2.8	1151	9 US-09-962-969-20	Sequence 20, Appli
24	28	2.8	1151	10 US-09-837-867A-20	Sequence 20, Appli
25	28	2.8	1183	9 US-09-441-411-23	Sequence 23, Appli
26	28	2.8	1261	9 US-09-962-969-12	Sequence 12, Appli
27	28	2.8	1261	10 US-09-837-867A-12	Sequence 12, Appli
28	25	2.5	25	10 US-09-303-510-34	Sequence 34, Appli
29	25	2.5	25	10 US-09-303-510-36	Sequence 36, Appli
30	25	2.5	25	10 US-09-303-510-38	Sequence 38, Appli
31	25	2.5	25	10 US-09-303-040-34	Sequence 34, Appli
32	25	2.5	25	10 US-09-303-040-36	Sequence 36, Appli
33	25	2.5	25	10 US-09-303-040-38	Sequence 38, Appli
34	24	2.4	54	10 US-09-147-142-23	Sequence 23, Appli
35	24	2.4	54	10 US-09-147-142-26	Sequence 26, Appli
36	21	2.1	21	10 US-09-303-510-27	Sequence 27, Appli
37	21	2.1	21	10 US-09-303-040-27	Sequence 27, Appli
38	21	2.1	505	10 US-09-733-607-4	Sequence 4, Appli
39	20	2.0	22	9 US-10-115-615-20	Sequence 20, Appli
40	20	2.0	639	10 US-09-878-574-4316	Sequence 4316, Ap
41	19	1.9	2577	10 US-09-529-063-71	Sequence 71, Appli
42	19	1.9	2880	10 US-09-764-898-81	Sequence 81, Appli
43	19	1.9	3013	10 US-09-764-853-260	Sequence 260, App
44	19	1.9	3088	10 US-09-529-063-72	Sequence 72, Appli
45	19	1.9	3336	9 US-10-004-551-27	Sequence 27, Appli
46	18	1.8	101	10 US-09-864-761-21442	Sequence 21442, A
47	18	1.8	208	10 US-09-864-761-17671	Sequence 17671, A
48	18	1.8	210	9 US-09-962-969-31	Sequence 31, Appli
49	18	1.8	210	10 US-09-837-867A-31	Sequence 31, Appli
50	18	1.8	412	10 US-09-729-674-43	Sequence 43, Appli
51	18	1.8	451	10 US-09-864-761-4702	Sequence 4702, Ap
52	18	1.8	461	10 US-09-864-761-891	Sequence 891, App
53	18	1.8	467	9 US-10-046-935-2030	Sequence 2030, Ap
54	18	1.8	467	9 US-09-878-178-2030	Sequence 2030, Ap
55	18	1.8	467	9 US-10-146-502-2030	Sequence 2030, Ap
56	18	1.8	481	10 US-09-974-300-6414	Sequence 6414, Ap
57	18	1.8	812	9 US-10-001-857-5	Sequence 5, Appli
58	18	1.8	822	10 US-09-770-445-722	Sequence 722, App
59	18	1.8	1039	10 US-09-880-192-25	Sequence 25, Appli
60	18	1.8	1491	10 US-09-892-325-3	Sequence 3, Appli
61	18	1.8	1494	9 US-09-938-842A-569	Sequence 569, Appli
62	18	1.8	1502	10 US-09-883-797-11	Sequence 11, Appli
63	18	1.8	1807	10 US-09-892-325-2	Sequence 2, Appli
64	18	1.8	2508	9 US-09-938-842A-2036	Sequence 2036, Ap
65	18	1.8	3722	10 US-09-892-325-1	Sequence 1, Appli
66	18	1.8	45839	12 US-10-025-187-3	Sequence 3, Appli
67	17	1.7	97	9 US-09-747-377-329	Sequence 329, App
68	17	1.7	153	10 US-09-878-574-7526	Sequence 7526, Ap
69	17	1.7	172	10 US-09-867-701-8290	Sequence 8290, Ap
70	17	1.7	184	10 US-09-864-761-17534	Sequence 17534, A
71	17	1.7	244	9 US-09-796-692-7114	Sequence 7114, Ap
72	17	1.7	263	9 US-09-796-692-8846	Sequence 8846, Ap
73	17	1.7	271	10 US-09-878-574-8204	Sequence 8204, Ap
74	17	1.7	275	10 US-09-878-574-12123	Sequence 12123, A
75	17	1.7	300	9 US-10-060-036-2874	Sequence 2874, Ap
76	17	1.7	354	10 US-09-864-761-750	Sequence 750, Appli
77	17	1.7	364	9 US-09-796-692-6059	Sequence 6059, Ap
78	17	1.7	364	10 US-09-864-761-3828	Sequence 3828, Ap
79	17	1.7	366	9 US-10-015-219-792	Sequence 792, App
80	17	1.7	366	10 US-09-777-564-792	Sequence 792, App
81	17	1.7	378	9 US-09-918-995-6975	Sequence 6975, Ap
82	17	1.7	387	9 US-10-108-605-110	Sequence 110, Appli
83	17	1.7	391	9 US-09-736-457-697	Sequence 697, App
84	17	1.7	391	9 US-09-902-641-697	Sequence 697, App
85	17	1.7	391	9 US-09-849-626-697	Sequence 697, App
86	17	1.7	391	9 US-10-017-754-697	Sequence 697, App
87	17	1.7	394	10 US-09-960-352-849	Sequence 849, App
88	17	1.7	406	9 US-09-918-995-16638	Sequence 16638, A
89	17	1.7	406	10 US-09-878-574-2459	Sequence 2459, A
90	17	1.7	417	9 US-09-918-995-34307	Sequence 34307, A
91	17	1.7	423	9 US-09-918-995-4171	Sequence 4171, Ap
92	17	1.7	426	9 US-09-918-995-3458	Sequence 3458, Ap

```

c 93 17 1.7 430 9 US-09-918-995-16733 Sequence 16733, A
c 94 17 1.7 446 9 US-09-918-995-26057 Sequence 26057, A
c 95 17 1.7 449 9 US-09-918-995-14537 Sequence 14537, A
c 96 17 1.7 456 9 US-09-796-692-2827 Sequence 2827, Ap
c 97 17 1.7 488 9 US-09-918-995-34571 Sequence 34571, A
c 98 17 1.7 492 9 US-10-046-935-1265 Sequence 1265, Ap
c 99 17 1.7 492 9 US-09-878-178-1265 Sequence 1265, Ap
c 100 17 1.7 492 9 US-10-146-502-1265 Sequence 1265, Ap

```

ALIGNMENTS

RESULT 1

```

US-09-303-510-5
; Sequence 5, Application US/09303510A
; Patent No. US20020028208A1
; GENERAL INFORMATION:
; APPLICANT: Collisson, Ellen W.
; APPLICANT: Choi, Insoo
; APPLICANT: Hash, Stephen M.
; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
; FILE REFERENCE: 54954
; CURRENT APPLICATION NUMBER: US/09/303, 510A
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083, 869
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 83
; SOFTWARE: Patentln Ver. 2.1
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: Feline
US-09-303-510-5

```

```

Query Match          95.2%; Score 948; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy 1 ATGGGCAATTTGTGACAGACATATGGAGTGCACACTCTCTTGATGGCCCTCTG 60
Db 63 ATGGGCAATTTGTGACAGACATATGGAGTGCACACTCTCTTGATGGCCCTCTG 122
Qy 61 CTCTCTGTTGTTTCCATGTAAGAGTCAAGCATATTTCAACAAGACTGGAACTGCA 120
Db 123 CTCTCTGTTGTTTCCATGTAAGAGTCAAGCATATTTCAACAAGACTGGAACTGCA 182
Qy 121 TGGCATTATTACAACCTCTCAAAACATAAAGCTGATGAGTGTATTTTGGCAGGAC 180
Db 183 TGGCATTATTACAACCTCTCAAAACATAAAGCTGATGAGTGTATTTTGGCAGGAC 242
Qy 181 CAGGATAGCTGTGTTCTGTATGAGATATTCAGAGGCAAGAAACCCCAAAATGTTTCA 240
Db 243 CAGGATAGCTGTGTTCTGTATGAGATATTCAGAGGCAAGAAACCCCAAAATGTTTCA 302
Qy 241 CTCGAATTAAGAGGCGCTGACAAAGCTTTGACAAGGACAACCTGAGACCTCCACAT 300
Db 303 CTCGAATTAAGAGGCGCTGACAAAGCTTTGACAAGGACAACCTGAGACCTCCACAT 362
Qy 301 GTTCAGATCAAGGACAGGACATATCATGTTTCATTATTAAGAGGCCCAAAAGA 360
Db 363 GTTCAGATCAAGGACAGGACATATCATGTTTCATTATTAAGAGGCCCAAAAGA 422
Qy 361 CTAGTTCCTCATGACCAATATGTTCTGTACCTATGAGTGTGCTTAACCTGATCAACT 420
Db 423 CTAGTTCCTCATGACCAATATGTTCTGTACCTATGAGTGTGCTTAACCTGATCAACT 482
Qy 421 GAAATTAACAGTACTTCTAATGACAGAAAATTTGSCATCATTAATTTGACCTGCTCA 480
Db 483 GAAATTAACAGTACTTCTAATGACAGAAAATTTGSCATCATTAATTTGACCTGCTCA 542
Qy 481 TGTATTAACAAGGTTTACCAGAACCTTAAGAGATGTAATTTTTCAGCTTAACAACCTGAGAAATTCA 540

```

```

Db 543 TGTATTAACAAGTATACCAGACATTAAGAGATGTAATTTTCAGTAAACCTGAGAAATTCA 602
Qy 541 ACTACTAGATATATATCTGTCATGAAAGAAATCTCAAAATATATGACAGAACTGTAAC 600
Db 603 ACTACTAGATATATATCTGTCATGAAAGAAATCTCAAAATATATGACAGAACTGTAAC 662
Qy 601 GTTTCATACGCTTGCTTTTTCAGTCCCGAAGCACAAGTGTAGGCTGTTTGTGTC 660
Db 663 GTTTCATACGCTTGCTTTTTCAGTCCCGAAGCACAAGTGTAGGCTGTTTGTGTC 722
Qy 661 CTGAAGTGGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACT 720
Db 723 CTGAAGTGGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGATGACAACT 782
Qy 721 AAGATTAAGACCTTGAACAGGCCACTTCTGATTTGGGCTTACTTGAATGTTT 780
Db 783 AAGATTAAGACCTTGAACAGGCCACTTCTGATTTGGGCTTACTTGAATGTTT 842
Qy 781 GTTGTGTTTGTGGAGTGTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGAGCT 840
Db 843 GTTGTGTTTGTGGAGTGTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGAGAGCT 902
Qy 841 GGCCCTCTCATGATGATGTGAAACCATCAAAAGGAGAGAAAGAGAGAGAGAGAGAG 900
Db 903 GGCCCTCTCATGATGATGTGAAACCATCAAAAGGAGAGAAAGAGAGAGAGAGAGAG 962
Qy 901 GAAAGATACCATACCAACGCTGAGAGATCTGATGAAAGCCAGCT 948
Db 963 GAAAGATACCATACCAACGCTGAGAGATCTGATGAAAGCCAGCT 1010

```

RESULT 2

```

US-09-303-040-5
; Sequence 5, Application US/09303040
; Patent No. US20020051792A1
; GENERAL INFORMATION:
; APPLICANT: Winslow, Barbara J.
; APPLICANT: Cochran, Mark D.
; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
; FILE REFERENCE: 54957-B
; CURRENT APPLICATION NUMBER: US/09/303, 040
; CURRENT FILING DATE: 1999-04-30
; EARLIER APPLICATION NUMBER: 60/083, 870
; EARLIER FILING DATE: 1998-05-01
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 5
; LENGTH: 1080
; TYPE: DNA
; ORGANISM: feline CD86
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (63)..(1052)
US-09-303-040-5

```

```

Query Match          95.2%; Score 948; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 948; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

Qy 1 ATGGGCAATTTGTGACAGACATATGGAGTGCACACTCTCTTGATGGCCCTCTG 60
Db 63 ATGGGCAATTTGTGACAGACATATGGAGTGCACACTCTCTTGATGGCCCTCTG 122
Qy 61 CTCTCTGTTGTTTCCATGTAAGAGTCAAGCATATTTCAACAAGACTGGAACTGCA 120
Db 123 CTCTCTGTTGTTTCCATGTAAGAGTCAAGCATATTTCAACAAGACTGGAACTGCA 182
Qy 121 TGGCATTATTACAACCTCTCAAAACATAAAGCTGATGAGTGTATTTTGGCAGGAC 180
Db 183 TGGCATTATTACAACCTCTCAAAACATAAAGCTGATGAGTGTATTTTGGCAGGAC 242

```

```

7 PRIOR APPLICATION NUMBER: 60/200,303
7 PRIOR FILING DATE: 2000-04-28
7 PRIOR APPLICATION NUMBER: 60/200,779
7 PRIOR FILING DATE: 2000-04-28
7 PRIOR APPLICATION NUMBER: 60/200,999
7 PRIOR FILING DATE: 2000-05-01
7 PRIOR APPLICATION NUMBER: 60/202,084
7 PRIOR FILING DATE: 2000-05-04
7 PRIOR APPLICATION NUMBER: 60/206,201
7 PRIOR FILING DATE: 2000-05-22
7 PRIOR APPLICATION NUMBER: 60/223,378
7 PRIOR FILING DATE: 2000-08-04
7 PRIOR APPLICATION NUMBER: 60/223,416
7 PRIOR FILING DATE: 2000-08-04
7 PRIOR APPLICATION NUMBER: 60/223,378
7 PRIOR FILING DATE: 2000-08-07
7 NUMBER OF SEQ ID NOS: 9597
7 SOFTWARE: FastSeq for Windows Version 3.0
7 SEQ ID NO 7817
7 LENGTH: 551
7 TYPE: DNA
7 ORGANISM: Homo sapiens
7 FEATURE:
7 NAME/KEY: unsure
7 LOCATION: (526)
7 OTHER INFORMATION: n=A,T,C or G
7 NAME/KEY: unsure
7 LOCATION: (535)
7 OTHER INFORMATION: n=A,T,C or G
7 US-09-796-692-7817

Query Match          3.3%; Score 33; DB 9; Length 551;
Best Local Similarity 100.0%; Pred. No. 7e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY   394 TCAGTCTGCTGAACCTCAGTCACCTGAATA 426
      |||||||
Db    481 TCAGTGCTTGCTACTCAGTCACCTGAATA 513

RESULT 4
US-09-796-692-7754
; Sequence 7754, Application US/09796692
; Publication No. US20020198362A1
; GENERAL INFORMATION:
; APPLICANT: Gaiger, Alexander
; APPLICANT: Algate, Paul A.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE DETECTION, DIAGNOSIS AND TREATMENT OF HEMATOLOGICAL MALIGNANCIES
; FILE REFERENCE: 2077_001200
; CURRENT APPLICATION NUMBER: US/09/796,692
; CURRENT FILING DATE: 2001-03-01
; PRIOR APPLICATION NUMBER: 60/186,126
; PRIOR FILING DATE: 2000-03-01
; PRIOR APPLICATION NUMBER: 60/190,479
; PRIOR FILING DATE: 2000-03-17
; PRIOR APPLICATION NUMBER: 60/200,545
; PRIOR FILING DATE: 2000-04-27
; PRIOR APPLICATION NUMBER: 60/200,303
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,779
; PRIOR FILING DATE: 2000-04-28
; PRIOR APPLICATION NUMBER: 60/200,999
; PRIOR FILING DATE: 2000-05-01
; PRIOR APPLICATION NUMBER: 60/202,084
; PRIOR FILING DATE: 2000-05-04
; PRIOR APPLICATION NUMBER: 60/206,201
; PRIOR FILING DATE: 2000-05-22
; PRIOR APPLICATION NUMBER: 60/218,950
; PRIOR FILING DATE: 2000-07-14

```

;; PRIOR APPLICATION NUMBER: 60/222,903
;; PRIOR FILING DATE: 2000-08-03
;; PRIOR APPLICATION NUMBER: 60/223,416
;; PRIOR FILING DATE: 2000-08-04
;; PRIOR APPLICATION NUMBER: 60/223,378
;; PRIOR FILING DATE: 2000-08-07
;; NUMBER OF SEQ ID NOS: 9597
;; SOFTWARE: FASTSEQ for Windows Version 3.0
;; SEQ ID NO 7754
;; LENGTH: 598
;; TYPE: DNA
;; ORGANISM: Homo sapiens
;; FEATURE:
;; NAME/KEY: unsure
;; LOCATION: (574)
;; OTHER INFORMATION: n-A,T,C or G
US-09-796-692-7734

Query Match 3.3%; Score 33; DB 9; Length 598;
Best Local Similarity 100.0%; Pred. No. 7.1e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 426
|||||
DB 503 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 535

RESULT 5
US-10-105-200A-34
;; Sequence 34, Application US/10105200A
;; Publication No. US20030072796A1
;; GENERAL INFORMATION:
;; APPLICANT: CAI, Zeling
;; APPLICANT: SPRENT, Jonathan
;; APPLICANT: BRUNMARK, Anders
;; APPLICANT: JACKSON, Michael
;; APPLICANT: PETERSON, Per A.
;; TITLE OF INVENTION: SYNTHETIC ANTIGEN PRESENTING MATRIX WITH
;; FILE REFERENCE: TSRI 471.0 Con. 3
;; CURRENT APPLICATION NUMBER: US/10/105,200A
;; CURRENT FILING DATE: 2002-06-13
;; PRIOR APPLICATION NUMBER: US 09/042,492
;; PRIOR FILING DATE: 1998-03-16
;; PRIOR APPLICATION NUMBER: US 08/400,338
;; PRIOR FILING DATE: 1995-03-08
;; NUMBER OF SEQ ID NOS: 59
;; SOFTWARE: FASTSEQ for Windows Version 4.0
;; SEQ ID NO 34
;; LENGTH: 751
;; TYPE: DNA
;; ORGANISM: Homo Sapiens
US-10-105-200A-34

Query Match 3.3%; Score 33; DB 9; Length 751;
Best Local Similarity 100.0%; Pred. No. 7.2e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 426
|||||
DB 397 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 429

RESULT 6
US-09-845-899A-4
;; Sequence 4, Application US/09645899A
;; Patent No. US20020147326A1
;; GENERAL INFORMATION:
;; APPLICANT: CHAIKIN, MARGERY ANN
;; APPLICANT: LYNN, SALLY DOREEN PATRICIA
;; APPLICANT: SWEET, RAYMOND W.
;; APPLICANT: TRUENH, ALEMBEGED
;; TITLE OF INVENTION: HEXAMERIC FUSION PROTEINS AND USES

;; TITLE OF INVENTION: THEREFOR
;; FILE REFERENCE: P50496
;; CURRENT APPLICATION NUMBER: US/09/845,899A
;; CURRENT FILING DATE: 2001-04-30
;; PRIOR APPLICATION NUMBER: 09/202,346
;; PRIOR FILING DATE: 1999-01-13
;; PRIOR APPLICATION NUMBER: US 60/043,948
;; PRIOR FILING DATE: 1997-02-19
;; PRIOR APPLICATION NUMBER: US 60/038,915
;; PRIOR FILING DATE: 1997-02-21
;; NUMBER OF SEQ ID NOS: 27
;; SOFTWARE: FASTSEQ for Windows Version 3.0
;; SEQ ID NO 4
;; LENGTH: 831
;; TYPE: DNA
;; ORGANISM: HOMO SAPIENS
;; FEATURE:
;; NAME/KEY: CDS
;; LOCATION: (52)...(831)
US-09-845-899A-4

Query Match 3.3%; Score 33; DB 10; Length 831;
Best Local Similarity 100.0%; Pred. No. 7.3e-08;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 394 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 426
|||||
DB 442 TCAGTGTCTGCTACTGTCAGTCAACCTGAATA 474

RESULT 7
US-09-826-025-11
;; Sequence 11, Application US/09826025
;; Patent No. US20020162123A1
;; GENERAL INFORMATION:
;; APPLICANT: Chang, Lung-Ji
;; TITLE OF INVENTION: Combination Immunogene Therapy
;; NUMBER OF SEQUENCES: 25
;; CORRESPONDENCE ADDRESS:
;; ADDRESSER: Medien & Carroll, LLP
;; STREET: 220 Montgomery Street, Suite 2200
;; CITY: San Francisco
;; STATE: California
;; COUNTRY: United States of America
;; ZIP: 94104
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: PatentIn Release #1.0, Version #1.30
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/09/826,025
;; FILING DATE: 04-Apr-2001
;; CLASSIFICATION: <Unknown>
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 08/836,702
;; FILING DATE: <Unknown>
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Ingolia, Diane E.
;; REGISTRATION NUMBER: 40,027
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (415) 705-8410
;; TELEFAX: (415) 397-8338
;; INFORMATION FOR SEQ ID NO: 11:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 972 base pairs
;; TYPE: nucleic acid
;; STRANDEDNESS: double
;; TOPOLOGY: linear
;; MOLECULE TYPE: other nucleic acid
;; DESCRIPTION: /desc = "DNA"
;; SEQUENCE DESCRIPTION: SEQ ID NO: 11:

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 1867.06 Seconds
(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-28

Perfect score: 996

Sequence: 1 atggcgatttgtagcagcac.....acaaagtactacacatttt 996

Scoring table: OLIGO-NUC

Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : EST:

1: em_estbta:*
2: em_esthum:*
3: em_estlin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hlc:*
9: gb_est1:*
10: gb_est2:*
11: gb_hlc:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estfun:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_rtd:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	4.9	448	9	AA056906 EST224R P
2	4.0	512	9	AA056905 EST224F P
3	3.3	655	13	BI824940 B0109553
4	3.3	709	14	B0109553 lmaegc-7
5	3.3	753	13	BI906246 B03063172
6	3.0	314	12	BF171298 PCL2416 M

7	2.8	629	10	BB631711 BB631711
8	2.8	654	10	BB635605 BB635605
9	2.2	578	13	BM089797 503647 MA
10	2.2	1002	12	BF137460 601780644
11	2.1	167	17	AZ121157 RPT-23-1
12	2.1	303	10	AV530630 AV530630
13	2.1	380	10	AM260541 AM260541
14	2.1	402	10	AV802723 AV802723
15	2.1	407	10	AM617088 AM617088
16	2.1	408	10	AV817856 AV817856
17	2.1	416	10	AV808840 AV808840
18	2.1	420	17	AZ235242 RPT-23-7
19	2.1	430	17	AZ496704 RPT-23-7
20	2.1	433	10	AV800142 AV800142
21	2.1	450	10	AV810683 AV810683
22	2.1	452	10	AV810294 AV810294
23	2.1	515	12	BG622615 602647359
24	2.1	749	17	AG146101 Pan trogl
25	2.1	1259	14	BM922472 AGENCORR
26	2.0	172	10	AM034773 EST278809
27	2.0	237	12	BG628176 CC-est1cL
28	2.0	234	10	BM429395 BM429395
29	2.0	335	13	BI402787 MI-P-CP1-
30	2.0	353	17	AZ046631 nbe0092M
31	2.0	424	17	AQ315914 RPT-11-1N
32	2.0	438	17	AO504944 RPT-11-2
33	2.0	459	17	BF447785 7q95d10.x
34	2.0	489	17	AZ084226 RPT-23-4
35	2.0	536	17	AO455702 HS-5068.B
36	2.0	581	9	AA145473 mt10F04.r
37	2.0	624	17	AZ387434 1M0146L13
38	2.0	636	10	AM767798 da80a01.x
39	2.0	655	14	BQ155282 NF078G05I
40	2.0	655	11	AT068423 Schmidtea
41	2.0	710	9	AL709933 DKF2P686P
42	2.0	724	12	BG777289 602664525
43	2.0	730	17	AG147934 Pan trogl
44	2.0	781	17	BH536818 BOCN180TF
45	2.0	837	12	BG116339 602318475
46	2.0	939	17	AG177885 Pan trogl
47	1.9	170	10	AV349393 AV349393
48	1.9	177	12	BF749521 IL0-BNO42
49	1.9	193	12	BF730929 mab78h09-
50	1.9	197	12	BF408097 UI-R-BJ2-
51	1.9	211	14	N98388 za71h02.r1
52	1.9	216	17	AZ2433 4906.1c28
53	1.9	243	9	AV242281 AV242281
54	1.9	248	10	BB060114 BB060114
55	1.9	256	10	BB517100 BB517100
56	1.9	265	10	BB606710 BB606710
57	1.9	266	14	BM899917 UI-M-DJ1-
58	1.9	270	10	BB244292 BB244292
59	1.9	275	10	BB078124 BB078124
60	1.9	276	17	AZ602541 1M0421B21
61	1.9	278	10	BB232854 BB232854
62	1.9	279	14	BM899259 UI-M-DJ1-
63	1.9	281	10	BB347088 BB347088
64	1.9	286	10	BB190754 BB190754
65	1.9	287	10	BE111952 UI-R-BJ1-
66	1.9	288	10	BB440474 BB440474
67	1.9	290	10	AV735460 AV735460
68	1.9	290	10	BB380109 BB380109
69	1.9	290	10	BB472511 BB472511
70	1.9	299	14	BP018386 BP018386
71	1.9	300	9	AU098694 AU098694
72	1.9	300	14	D19283 MOSG00633
73	1.9	302	10	BB330068 BB330068
74	1.9	306	9	AA759535 W63c10.x
75	1.9	307	10	BB395266 BB395266
76	1.9	318	10	BB228677 BB228677
77	1.9	319	10	BB204887 BB204887
78	1.9	322	10	BB557912 BB557912
79	1.9	324	10	AV741053 AV741053

```

80      19      1.9      324      12      BE952499      UI-M-CE0-
81      19      1.9      329      10      BB390709      BB390709
82      19      1.9      329      10      BE825954      CM2-EM001
83      19      1.9      341      12      AM254786      ML106 PE
84      19      1.9      345      12      BF536754      602049235
85      19      1.9      348      12      BG093310      BE536754
86      19      1.9      373      9      A1044777      UI-R-C1-J
87      19      1.9      378      10      AV744988      AV744988
88      19      1.9      381      12      BF037606      601461178
89      19      1.9      384      10      AV812067      AV812067
90      19      1.9      391      17      A263695      IM0501N13
91      19      1.9      402      10      AQ123480      HS-3101_B
92      19      1.9      416      17      AV741176      AV741176
93      19      1.9      414      9      AU017834      AU017834
94      19      1.9      415      17      AO518306      HS-5105_A
95      19      1.9      417      10      AV739230      AV739230
96      19      1.9      418      14      BM964190      UI-M-EQ0-
97      19      1.9      425      12      BF293343      WHE2155_F
98      19      1.9      428      13      BM149285      TCAP2Q11
99      19      1.9      431      10      BE487802      BE487802
100     19      1.9      435      14      BP010133      BP010133

```

ALIGNMENTS

```

RESULT 1
AA056906      448 bp      mRNA      linear      EST 18-SEP-1996
LOCUS      EST224F Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
DEFINITION      Sus scrofa cDNA clone SPL224 reverse similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION      AA056906      GI:1549546
VERSION
KEYWORDS
SOURCE
ORGANISM

```

```

REFERENCE
AUTHORS      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
TITLE      1 (bases 1 to 448)
JOURNAL      Tuggle, C.K., Wahls, S. and Schmitz, C.
COMMENT      Expressed Sequence Tags from Pig Spleen
Unpublished (1996)
Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGGACGACTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert length: 950      Std Error: 50.00
Seq primer: GACCGGCGCTCAGCT.

```

```

FEATURES
source

```

```

1.448
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
BASE COUNT      126 a      116 c      89 g      116 t      1 others
ORIGIN

```

```

Query Match      4.9%; Score 49; DB 9; Length 448;
Best Local Similarity 100.0%; Pred. No. 3.7e-14;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      379      ATGAGTTCTGACCTATCAGTCTTCTACTACTGATGACACCTGAATAA 427

```

```

|||||
Db      341      ATGAGTTCTGACCTATCAGTCTTCTACTACTGATGACACCTGAATAA 389

```

```

RESULT 2
AA056905/c      512 bp      mRNA      linear      EST 18-SEP-1996
LOCUS      EST224F Pig Spleen lambda gt 11 library (Clontech Cat # PL1006b)
DEFINITION      Sus scrofa cDNA clone SPL224 forward similar to L25259 CTLA4
counter-receptor, human, mRNA sequence.

```

```

ACCESSION      AA056905      GI:1549545
VERSION
KEYWORDS
SOURCE
ORGANISM

```

```

REFERENCE
AUTHORS      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
TITLE      1 (bases 1 to 512)
JOURNAL      Tuggle, C.K., Wahls, S. and Schmitz, C.
COMMENT      Expressed Sequence Tags from Pig Spleen
Unpublished (1996)
Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGGACGACTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert length: 950      Std Error: 50.00
Seq primer: TGCGGACGACTCCTG.

```

```

FEATURES
source

```

```

1.512
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="SPL224"
/clone_lib="Pig Spleen lambda gt 11 library (Clontech Cat
# PL1006b)"
/tissue_type="spleen"
/dev_stage="adult"
/note="Oligo (dT) primed"
BASE COUNT      125 a      106 c      114 g      163 t      4 others
ORIGIN

```

```

Query Match      4.0%; Score 40; DB 9; Length 512;
Best Local Similarity 100.0%; Pred. No. 1.9e-09;
Matches 40; Conservative 0; Mismatches 0; Indels 1; Gaps 0;

```

```

QY      810      AACACTAAGAAAGAAAGAAAGACGCTGCCCTCT 849
Db      193      AACACTAAGAAAGAAAGAAAGACGCTGCCCTCT 154

```

```

RESULT 3
B1824940      655 bp      mRNA      linear      EST 04-OCT-2001
LOCUS      60303554F1 NIH_MGC_115 Homo sapiens cDNA clone IMAGE:5173789 5',
DEFINITION      mRNA sequence.
ACCESSION      B1824940
VERSION
KEYWORDS
SOURCE
ORGANISM

```

```

REFERENCE
AUTHORS      Homo sapiens
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
TITLE      NIH-MGC http://mgc.nci.nih.gov/.
JOURNAL      National Institutes of Health, Mammalian Gene Collection (MGC)
COMMENT      Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov

```


ALIGNMENTS

```
RESULT 1
US-09-039-982A-34
; Sequence 34, Application US/0903982A
; Patent No. 6225042
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR ACTIVATION OF T-CELL
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierrl, Ltd.
; STREET: 20 No. 6225042th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,982A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; US-09-039-982A-34

Query Match          3.3%: Score 33; DB 4; Length 751;
Best Local Similarity 100.0%: Pred No. 5.2e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      394 TCAGTGGTCTGCTACTCAGTCAACCTGAATA 426
DB      397 TCAGTGGTCTGCTACTCAGTCAACCTGAATA 429

RESULT 2
US-09-039-641-34
; Sequence 34, Application US/09039641
; Patent No. 6251627
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS FOR
; TITLE OF INVENTION: ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 45
```

```
CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierrl, Ltd.
; STREET: 20 No. 6251627th Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,641
; FILING DATE: 8-MAR-1995
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Olson, Arne M.
; REGISTRATION NUMBER: 30,203
; REFERENCE/DOCKET NUMBER: TSRI4710
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 580-1180
; TELEFAX: (312) 580-1189
; INFORMATION FOR SEQ ID NO: 34:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 751 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; US-09-039-641-34

Query Match          3.3%: Score 33; DB 4; Length 751;
Best Local Similarity 100.0%: Pred No. 5.2e-07;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      394 TCAGTGGTCTGCTACTCAGTCAACCTGAATA 426
DB      397 TCAGTGGTCTGCTACTCAGTCAACCTGAATA 429

RESULT 3
US-09-039-762A-34
; Sequence 34, Application US/09039762A
; Patent No. 6255073
; GENERAL INFORMATION:
; APPLICANT: Cai, Zeling
; APPLICANT: Sprent, Jonathan
; APPLICANT: Brunmark, Anders
; APPLICANT: Jackson, Michael
; APPLICANT: Peterson, Per A
; TITLE OF INVENTION: ANTIGEN PRESENTING SYSTEM AND METHODS
; TITLE OF INVENTION: FOR ACTIVATION OF T-CELLS
; NUMBER OF SEQUENCES: 59
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Olson & Hierrl, Ltd.
; STREET: 20 No. 6255073th Wacker Drive, 36th Floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/039,762A
; FILING DATE: 16-MAR-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
```

GenCore version 5.1.4-p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

SUMMARIES

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 1476.53 seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggtaccagacc.....ggcgacaaagtlactacaca 509

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 2054640 seqs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sts:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*
15: em_ba:*
16: em_fun:*
17: em_hum:*
18: em_in:*
19: em_mu:*
20: em_om:*
21: em_or:*
22: em_ov:*
23: em_pat:*
24: em_ph:*
25: em_pl:*
26: em_ro:*
27: em_sts:*
28: em_un:*
29: em_vl:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pln:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vrl:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

Result No.	Score	Query Match	Length	DB	ID	Description
1	509	100.0	2830	4	AY007704	AY007704 Felis cat
2	465	91.4	1138	4	AF157827	AF157827 Felis cat
3	465	91.4	1270	4	AB030652	AB030652 Felis cat
4	56	11.0	1897	4	AF106826	AF106826 Canis fam
5	42	8.3	1795	4	AF106827	AF106827 Canis fam
6	40	7.9	994	4	PICD866	PICD866 Sus scrofa
7	40	7.9	994	6	AX027016	AX027016 Sequence
8	22	4.3	66325	2	AC016425	AC016425 Homo sapi
9	22	4.3	75974	2	AC090991	AC090991 Homo sapi
10	22	4.3	81323	2	AC099244	AC099244 Rattus no
11	22	4.3	94203	2	AC023907	AC023907 Homo sapi
12	22	4.3	98469	2	AC110936	AC110936 Rattus no
13	22	4.3	171124	2	AC107124	AC107124 Rattus no
14	22	4.3	175122	2	AC111364	AC111364 Rattus no
15	22	4.3	208230	9	AC090651	AC090651 Homo sapi
16	22	4.3	221789	2	AC115967	AC115967 Mus muscu
17	22	4.3	262549	2	AC113623	AC113623 Rattus no
18	21	4.1	133	4	AF222915	AF222915 Sus scrofa
19	21	4.1	505	6	AX153653	AX153653 Sequence
20	21	4.1	924	4	BT291475	BT291475 Bos tauru
21	21	4.1	1546	8	AY054163	AY054163 Arabidops
22	21	4.1	1649	8	AF428395	AF428395 Arabidops
23	21	4.1	53785	2	AC099866	AC099866 Mus muscu
24	21	4.1	53785	2	AC099866	AC099866 Mus muscu
25	21	4.1	75803	8	AB016890	AB016890 Arabidops
26	21	4.1	91448	9	AL672061	AL672061 Human DNA
27	21	4.1	103610	9	HSB240B8	HSB240B8 Human DNA
28	21	4.1	149810	2	AL691455	AL691455 Homo sapi
29	21	4.1	158647	2	AC103495	AC103495 Rattus no
30	21	4.1	159020	9	AL450307	AL450307 Human DNA
31	21	4.1	163584	2	AC127843	AC127843 Rattus no
32	21	4.1	166384	2	AC113446	AC113446 Mus muscu
33	21	4.1	167469	2	AC113882	AC113882 Rattus no
34	21	4.1	174662	2	AC026036	AC026036 Homo sapi
35	21	4.1	177552	2	AC099361	AC099361 Rattus no
36	21	4.1	181842	2	AL391823	AL391823 Homo sapi
37	21	4.1	185574	2	AC128374	AC128374 Rattus no
38	21	4.1	205221	2	AC115723	AC115723 Mus muscu
39	20	3.9	912	8	AF042489	AF042489 Oryza sat
40	20	3.9	4975	8	UF311552	UF311552 Uromyces
41	20	3.9	31986	8	AF458976	AF458976 Saccharom
42	20	3.9	72052	2	AC121263	AC121263 Mus muscu
43	20	3.9	72052	2	AC121263	AC121263 Mus muscu
44	20	3.9	85448	5	AL645788	AL645788 zebrafish
45	20	3.9	99509	3	LMFP1295	LMFP1295 Leishmani
46	20	3.9	102488	2	AC110288	AC110288 Homo sapi
47	20	3.9	104792	2	AC111653	AC111653 Rattus no
48	20	3.9	109992	2	AL845535	AL845535 Danio rer
49	20	3.9	110000	2	AC111891_3	Continuation (4 of
50	20	3.9	115641	8	FBK4	Continuation (4 of
51	20	3.9	115974	2	AC094317	AC094317 Arabidops
52	20	3.9	131769	2	AC104306	AC104306 Homo sapi
53	20	3.9	146451	2	AC019309	AC019309 Homo sapi
54	20	3.9	155357	2	AC118923	AC118923 Rattus no
55	20	3.9	160887	2	AC099718	AC099718 Mus muscu
56	20	3.9	162632	2	AC095487	AC095487 Rattus no
57	20	3.9	163842	2	AC106434	AC106434 Rattus no
58	20	3.9	167951	2	AL844553	AL844553 Mus muscu
59	20	3.9	170333	2	AL139019	AL139019 Homo sapi
60	20	3.9	171857	2	AC105880	AC105880 Rattus no
61	20	3.9	172288	2	AP005531	AP005531 Oryza sat
62	20	3.9	173906	2	AC121059	AC121059 Rattus no
63	20	3.9	178728	9	AC106461	AC106461 Rattus no
64	20	3.9	181532	9	CNS01DW2	Human chr
65	20	3.9	182027	2	AC110171	AC110171 Mus muscu

ALIGNMENTS

Query Match	100.0%	Score 509	DB 4	Length 2830
Best Local Similarity	100.0%	Pred. No. 1e-263		
Matches 509	Conservative 0	Mismatches 0	Indels 0	Gaps 0
QY 1	ATACAGGTTACCCAGAACCTTAAGAGATGATATTTTCAGCTAAACACCTGAGAAATTCACACT	60		
Db 662	ATACAGGTTACCCAGAACCTTAAGAGATGATATTTTCAGCTAAACACCTGAGAAATTCACACT	721		
QY 61	ACTAGTGTGATCTGTCATGAGAAATCTGAAATATGTGACAGAACTGTACAGCTT	120		
Db 722	ACTAGTGTGATCTGTCATGAGAAATCTGAAATATGTGACAGAACTGTACAGCTT	781		
QY 121	TCATACAGCTTGCCCTTTTTCAGTCCCTGAGACACAAATGTGACGCTTTTGTGCCCTG	180		
Db 782	TCATACAGCTTGCCCTTTTTCAGTCCCTGAGACACAAATGTGACGCTTTTGTGCCCTG	841		
QY 181	AAACGGAGAACACMGAGAGATGCTGCTCCCTACCTTTCATATATAGATGACACAACTTAG	240		
Db 842	AAACGGAGAACACMGAGAGATGCTGCTCCCTACCTTTCATATATAGATGACACAACTTAG	901		
QY 241	GATTAAGACCCCTGGAACAAGAGCCACTTCCCTGTGATTTGGGCGCTGACTTGTAAATGTTTGT	300		
Db 902	GATTAAGACCCCTGGAACAAGAGCCACTTCCCTGTGATTTGGGCGCTGACTTGTAAATGTTTGT	961		
QY 301	GTTTTTGTGGGAGTGGTGTCTTAAACACTAAGAGAAAGAGAAAGAACACAGCCGTGGC	360		
Db 962	GTTTTTGTGGGAGTGGTGTCTTAAACACTAAGAGAAAGAGAAAGAACACAGCCGTGGC	1021		
QY 361	CCCTCTCATGATGTGAAACCATCAAAAAGGAGAGAAAAGAGACCAACAGCAAGCA	420		
Db 1022	CCCTCTCATGATGTGAAACCATCAAAAAGGAGAGAAAAGAGACCAACAGCAAGCA	1081		
QY 421	AGAGTACCATATCCAGCTACCTGAGAGATCTGATGAAGCCCGTGTATTAACATTTTGAAG	480		
Db 1082	AGAGTACCATATCCAGCTACCTGAGAGATCTGATGAAGCCCGTGTATTAACATTTTGAAG	1141		
QY 481	ACAGCCTCAGCGCAGCAAAAGTACTACACA	509		
Db 1142	ACAGCCTCAGCGCAGCAAAAGTACTACACA	1170		
RESULT 2	AF157827	1138 bp	mRNA	linear
LOCUS	AF157827	1138 bp	mRNA	linear
DEFINITION	Felis catus CD86 antigen (CD86) mRNA, complete cds.			MAM 08-MAY-2000
ACCESSION	AF157827			
VERSION	AF157827.1	GI:5381423		
KEYWORDS				
SOURCE				
ORGANISM				
REFERENCE				
AUTHORS	Choi, I.-S., Hash, S.W., Winslow, B.J. and Collisson, E.W.			
TITLE	Sequence analyses of feline B7 costimulatory molecules			
JOURNAL	Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)			
MEDLINE	20180222			
PUBMED	10713336			
REFERENCE	2 (bases 1 to 1138)			
AUTHORS	Choi, I.-S., Hash, S.W., Winslow, B.J. and Collisson, E.W.			
TITLE	Direct Submission			

JOURNAL Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M University, Bldg. 1197 Rm. 222, College Station, TX 77843, USA

FEATURES

source

1. .1138

/organism="Felis catus"

/db_xref="taxon:9685"

gene

1. .1138

/gene="CD86"

63. .1052

/gene="CD86"

/note="B7-2 antigen"

/codon_start=1

/product="CD86 antigen"

/protein_id="AAD42974.1"

/db_xref="GI:5381424"

/translation="MGICDSTMGLSHTLLVMALLSGVSMKSQAVFNKTELPCHFT

NSONISIDELIVFMODDKLVLEIFRKPONVHLKRTSPDKDNTLRILHNVQ

IKDKGTIFCFIHKPGKGLVPMHOMSDLSVLFNSOPELTVTSNRENSGILNLS

SIQGYPERKEMFOLNTENSTTKYDTVMKRSQNNVTELIVNSISLPSVPEAHNVSVF

CALKLETELMLSLPENTIDQPKDPEQGHFLMIAVLVMEVFCGMSFKTLRRK

KKOPSPHECEETIKRERESKOTNERVPHVPERSDAEQVNLKTASGDKNQ"

BASE COUNT

358 a

245 c

246 g

289 t

ORIGIN

Query Match 91.4%; Score 465; DB 4; Length 1138;
Best Local Similarity 100.0%; Pred. No. 7.1e-240;
Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCACCTAAACATGAGATTCACCT 60

DB 546 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCACCTAAACATGAGATTCACCT 605

QY 61 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 120

DB 606 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 665

QY 121 TCTATCAGCTGCCCTTTTCACTCCCTGAAGACACACATGTAGCGCTTTTGGCCCTG 180

DB 666 TCTATCAGCTGCCCTTTTCACTCCCTGAAGACACACATGTAGCGCTTTTGGCCCTG 725

QY 181 AACTGGAACACTGAGATGCTGCTCCCTACCTTTAATATAGATGACAACTAAG 240

DB 726 AACTGGAACACTGAGATGCTGCTCCCTACCTTTAATATAGATGACAACTAAG 785

QY 241 GATAAGACCCCTGAACAGGCACTCTCTGATTCGGCTGTACTTGAATGTTTGT 300

DB 786 GATAAGACCCCTGAACAGGCACTCTCTGATTCGGCTGTACTTGAATGTTTGT 845

QY 301 GTTTTGTGGAGTGTCCTTTTAAACACTAAGGAAAGAGAGAGAGAGAGAGAGAGAG 360

DB 846 GTTTTGTGGAGTGTCCTTTTAAACACTAAGGAAAGAGAGAGAGAGAGAGAGAGAG 905

QY 361 CCCTCTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG 420

DB 906 CCCTCTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG 965

QY 421 AGATACCATATACAGCTACCTGAGAGATCTGATGAAGCCAGCTGT 465

DB 966 AGATACCATATACAGCTACCTGAGAGATCTGATGAAGCCAGCTGT 1010

RESULT 3

AB030652

LOCUS

DEFINITION

ACCESSION

VERSION

KEYWORDS

SOURCE

ORGANISM

AB030652 1270 bp mRNA linear MAM 01-MAR-2001

Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),

complete cds.

AB030652

AB030652.1 GI:9796387

B-lymphocyte activation antigen B7-2 (CD86).

Felis catus peripheral blood mononuclear cell cDNA to mRNA.

Felis catus

Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

REFERENCE 1 (sites)
Nishimura, Y., Shimojima, M., Miyazawa, T., Sato, E., Nakamura, K.,
Ishimura, Y., Ikeda, Y., Mikami, T. and Takahashi, E.
Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA-1g
Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)

FEATURES

source

1. .1270

/organism="Felis catus"

/db_xref="taxon:9685"

/cell_type="peripheral blood mononuclear cell"

1. .1270

/gene="CD86"

240. .1238

/gene="CD86"

/codon_start=1

/product="B-lymphocyte activation antigen B7-2 (CD86)"

/protein_id="BAB1688.1"

/db_xref="GI:9796388"

/translation="MGICDSTMGLSHTLLVMALLSGVSMKSQAVFNKTELPCHFT

NSONISIDELIVFMODDKLVLEIFRKPONVHLKRTSPDKDNTLRILHNVQ

IKDKGTIFCFIHKPGKGLVPMHOMSDLSVLFNSOPELTVTSNRENSGILNLS

SIQGYPERKEMFOLNTENSTTKYDTVMKRSQNNVTELIVNSISLPSVPEAHNVSVF

CALKLETELMLSLPENTIDQPKDPEQGHFLMIAVLVMEVFCGMSFKTLRRK

KKOPSPHECEETIKRERESKOTNERVPHVPERSDAEQVNLKTASGDKSTHF"

polya_signal

BASE COUNT 378 a

281 c

260 g

351 t

ORIGIN

Query Match 91.4%; Score 465; DB 4; Length 1270;

Best Local Similarity 100.0%; Pred. No. 7e-240;

Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCACCTAAACATGAGATTCACCT 60

DB 723 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCACCTAAACATGAGATTCACCT 782

QY 61 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 120

DB 783 ACTAAGTATGATCTGTCAATGAAGAAATCTCAAAATATGTGACAGAACTGTACAACT 842

QY 121 TCTATCAGCTGCCCTTTTCACTCCCTGAAGACACACATGTAGCGCTTTTGGCCCTG 180

DB 843 TCTATCAGCTGCCCTTTTCACTCCCTGAAGACACACATGTAGCGCTTTTGGCCCTG 902

QY 181 AACTGGAACACTGAGATGCTGCTCCCTACCTTTAATATAGATGACAACTAAG 240

DB 903 AACTGGAACACTGAGATGCTGCTCCCTACCTTTAATATAGATGACAACTAAG 962

QY 241 GATAAGACCCCTGAACAGGCACTCTCTGATTCGGCTGTACTTGAATGTTTGT 300

DB 963 GATAAGACCCCTGAACAGGCACTCTCTGATTCGGCTGTACTTGAATGTTTGT 1022

QY 301 GTTTTGTGGAGTGTCCTTTTAAACACTAAGGAAAGAGAGAGAGAGAGAGAGAGAG 360

DB 1023 GTTTTGTGGAGTGTCCTTTTAAACACTAAGGAAAGAGAGAGAGAGAGAGAGAG 1082

QY 361 CCCTCTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG 420

DB 1083 CCCTCTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGAGAGAGAGAGAGAGAG 1142

Oy	421	AGAGTACCATACAGGTACTGAGGATGTGTGAAGCCCACTGT	465
Db	1143	AGAGTACCATACAGGTACTGAGGATGTGTGAAGCCCACTGT	1187
RESULT 4			
LOCUS	AF106826	1897 bp	linear
DEFINITION	Canis familiaris B7-2 protein (CD86) mRNA, complete cds.		
ACCESSION	AF106826		
VERSION	AF106826.1	GI:6572516	
KEYWORDS			
SOURCE			
ORGANISM	Canis familiaris. Canis familiaris Eumetazoa; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora, Fissipedia; Canidae; Canis.		
REFERENCE			
AUTHORS	Yang, S. and Sim, G.-K.		
TITLE	New forms of dog CD80 and CD86 transcripts that encode secreted B7 molecules		
JOURNAL	Immunogenetics 50 (5-6), 349-353 (1999)		
MEDLINE	20093396		
PUBMED	10630300		
REFERENCE	2 (bases 1 to 1897)		
AUTHORS	Yang, S. and Sim, G.-K.		
TITLE	Direct Submission		
JOURNAL	Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA		
FEATURES			
source	1..1897 /organism="Canis familiaris" /db_xref="taxon:9615" /cell_type="peripheral blood mononuclear cells"		
gene	1..1897 /gene="CD86"		
5'UTR	1..5 /gene="CD86"		
CDS	6..995 /gene="CD86" /function="counter-receptor for CD28 and CD152 (CTLA4)" /codon_start=1 /product="B7-2 protein" /protein_id="AAF17297.1" /db_xref="GI:6572517"		
3'UTR	/translation="MYRLCTELNINLIFVMTLLLYGASMSQAYFNKGTGLPCHEFTNN /SNTSLDELVFWODQKLVLYELIRGENQNVHRRYKGTSTFDKDNWTRLNID KDKLKYCFVHNRKPKGLVPMHOMNSDLVLANVSOPELVNTSMTNSGIIINLTSS VLOGPERKEMFELVKTENSTKYDVTYKKSQNNVTELVNVSLSFSVPEASNVSI VLOSMSKRLPELPYINIDANTKPTPDGHIIMAILVMLVILCGMVFELLRKKKQ PGPSHECTNNVERKESQTERVRYHETFRSDAQCVNISKTSQDNSTTQ"		
BASE COUNT	585 a 400 c 383 g 529 t		
ORIGIN			
Query Match	11.0%; Score 56; DB 4; Length 1897;		
Best Local Similarity	100.0%; Pred. No. 7 5e-19;		
Matches	56; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		
Oy	327	AACACTAAGAAAAGAGAGAACAGACACCTGGCCCTCTCATGATGTGAACCA	382
Db	806	AACACTAAGAAAAGAGAGAACAGACACCTGGCCCTCTCATGATGTGAACCA	861
RESULT 5			
LOCUS	AF106827	1795 bp	mRNA
DEFINITION	Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.		
ACCESSION	AF106827		
VERSION	AF106827.1	GI:6572518	
KEYWORDS			
SOURCE	Canis familiaris. Canis familiaris		

REFERENCE	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
AUTHORS	Mammalia; Euteria; Carnivora; Fissipedia; Canidae; Canis.
TITLE	1 (bases 1 to 1795) Yang,S., and Sim,G.K. New forms of dog CD86 and CD86 transcripts that encode secreted B7 molecules
JOURNAL	Immunogenetics 50 (5-6), 349-353 (1999)
MEDLINE	20093986
REFERENCE	10630300
AUTHORS	2 (bases 1 to 1795) Yang,S., and Sim,G.-K.
TITLE	Direct Submission Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825 Sharp Point Drive, Fort Collins, CO 80525, USA
JOURNAL	
FEATURES	location/qualifiers
SOURCE	1..1795
gene	/organism="Canis familiaris" /db_xref="taxon:9615" /cell_type="peripheral blood mononuclear cells"
5'UTR	1..1795 /gene="CD86"
CDS	1..6 /gene="CD86" 7..849 /gene="CD86" /function="counter-receptor for CD28 and CD152 (CTLA4)" /note="Lacks transmembrane domain; alternatively spliced" /codon_start=1 /product="truncated B7-2 protein" /protein_id="AAFI7298.1" /db_xref="GI:6572519 /translation="MYLCRTMELNLEFMTLLLYGAASKSQAYFNKGELPCHPFTN SONSLDELVEFMODQDKLVYLEYRKREPNQVHRRYKGRTSFDKNMTLR,LHNIDII KDGLQCFVNHGPKGLVPHQNSDSLVAANSCEPIWTSNRTENSGILNTCSS IOGPEKREKEFLVKTENSSRYKYTVKKKSNNVTETLYNVISLSFSVPASVNSIC VLQESMKRLPSLPYNIEITNNYERESPQTNERVHYHTERSDEACVNIKTSGDNS TTPG"
BASE COUNT	850 .1795 592 a 366 c 347 g 490 t
ORIGIN	/gene="CD86"
Query Match	8.3%; Score 42; DB 4; Length 1795; Best Local Similarity 100.0%; Pred. No. 2.8e-11;
Matches	42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Oy	60 TACTAGTAGTACTGTCAATGAGAACAATTCACAAATAATATGT 101
Db	546 TACTAAGTAGTACTGTCAATGAGAACAATTCACAAATAATATGT 587
RESULT 6	
LOCUS	PICDCD86G 994 bp mRNA linear MAM 17-JUN-1997
DEFINITION	Sus scrofa CD86 mRNA, complete cds.
ACCSSION	L76099
VERSION	L76099.1 GI:2198558
KEYWORDS	T cell costimulation.
SOURCE	Sus scrofa.
ORGANISM	Sus scrofa
REFERENCE	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
AUTHORS	Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus. 1 (bases 1 to 994) Maher,S.E., Karmann,K., Min,W., Hughes,C.C., Pober,J.S. and Bothwell,A.L.
TITLE	Porcine endothelial CD86 is a major costimulator of xenogeneic human T cells: cloning, sequencing, and functional expression in human endothelial cells
JOURNAL	J. Immunol. 157 (9), 3838-3844 (1996)
MEDLINE	97047772
PUBMED	8892613
COMMENT	GSDS:5:74002
FEATURES	Location/Qualifiers

* 6454 7168: contig of 715 bp in length
* 7169 7268: gap of 100 bp in length
* 7269 7986: contig of 718 bp in length
* 7987 8086: gap of 100 bp
* 8087 8805: contig of 719 bp in length
* 8806 8905: gap of 100 bp
* 8906 9602: contig of 697 bp in length
* 9603 9702: gap of 100 bp
* 9703 10418: contig of 716 bp in length
* 10419 10518: gap of 100 bp
* 10519 11244: contig of 726 bp in length
* 11245 11344: gap of 100 bp
* 11345 12062: contig of 718 bp in length
* 12063 12162: gap of 100 bp
* 12163 12840: contig of 678 bp in length
* 12841 12940: gap of 100 bp
* 13647 13746: contig of 706 bp in length
* 13747 14436: contig of 690 bp in length
* 14437 14536: gap of 100 bp
* 14537 15239: contig of 703 bp in length
* 15240 15339: gap of 100 bp
* 15340 16050: contig of 711 bp in length
* 16051 16150: gap of 100 bp
* 16151 16864: contig of 714 bp in length
* 16865 16964: gap of 100 bp
* 16965 17686: contig of 722 bp in length
* 17687 17786: gap of 100 bp
* 17787 18501: contig of 715 bp in length
* 18502 18601: gap of 100 bp
* 18602 19320: contig of 719 bp in length
* 19321 19420: gap of 100 bp
* 19421 20142: contig of 722 bp in length
* 20143 20242: gap of 100 bp
* 20243 20962: contig of 720 bp in length
* 20963 21062: gap of 100 bp
* 21063 21781: contig of 719 bp in length
* 21782 21881: gap of 100 bp
* 21882 22603: contig of 722 bp in length
* 22604 22703: gap of 100 bp
* 22704 23394: contig of 691 bp in length
* 23395 23494: gap of 100 bp
* 23495 24191: contig of 697 bp in length
* 24192 24291: gap of 100 bp
* 24292 25013: contig of 722 bp in length
* 25014 25113: gap of 100 bp
* 25114 25824: contig of 711 bp in length
* 25825 25924: gap of 100 bp
* 25925 26646: contig of 722 bp in length
* 26647 26746: gap of 100 bp
* 26747 27437: contig of 691 bp in length
* 27438 27537: gap of 100 bp
* 27538 28249: contig of 712 bp in length
* 28250 28349: gap of 100 bp
* 28350 29066: contig of 717 bp in length
* 29067 29166: gap of 100 bp
* 29167 29869: contig of 703 bp in length
* 29870 29969: gap of 100 bp
* 29970 30677: contig of 708 bp in length
* 30678 30777: gap of 100 bp
* 30778 31480: contig of 703 bp in length
* 31481 31580: gap of 100 bp
* 31581 32290: contig of 710 bp in length
* 32291 32390: gap of 100 bp
* 32391 33110: contig of 720 bp in length
* 33111 33210: gap of 100 bp
* 33211 33933: contig of 723 bp in length
* 33934 34033: gap of 100 bp
* 34034 34763: contig of 730 bp in length
* 34764 34863: gap of 100 bp
* 34864 35579: contig of 716 bp in length
* 35580 35679: gap of 100 bp
* 35680 36383: contig of 704 bp in length

* 36384 36483: gap of 100 bp
* 36484 37194: contig of 711 bp in length
* 37195 37294: gap of 100 bp
* 37295 37953: contig of 659 bp in length
* 37954 38053: gap of 100 bp
* 38054 38714: contig of 661 bp in length
* 38715 38814: gap of 100 bp
* 38815 39519: contig of 705 bp in length
* 39520 39619: gap of 100 bp
* 39620 40326: contig of 707 bp in length
* 40327 40426: gap of 100 bp
* 40427 41147: contig of 721 bp in length
* 41148 41247: gap of 100 bp
* 41248 41962: contig of 715 bp in length
* 41963 42062: gap of 100 bp
* 42063 42763: contig of 701 bp in length
* 42764 42863: gap of 100 bp
* 42864 43604: contig of 741 bp in length
* 43605 43704: gap of 100 bp
* 43705 44440: contig of 736 bp in length
* 44441 44540: gap of 100 bp
* 44541 45254: contig of 714 bp in length
* 45255 45354: gap of 100 bp
* 45355 46056: contig of 702 bp in length
* 46057 46156: gap of 100 bp
* 46157 46845: contig of 689 bp in length
* 46846 46945: gap of 100 bp
* 46946 47650: contig of 705 bp in length
* 47651 47750: gap of 100 bp
* 47751 48465: contig of 715 bp in length
* 48466 48563: gap of 100 bp
* 48564 49268: contig of 703 bp in length
* 49269 49368: gap of 100 bp
* 49369 50088: contig of 720 bp in length
* 50089 50188: gap of 100 bp
* 50189 50893: contig of 705 bp in length
* 50894 50993: gap of 100 bp
* 50994 51697: contig of 704 bp in length
* 51698 51797: gap of 100 bp
* 51798 52533: contig of 736 bp in length
* 52534 52633: gap of 100 bp
* 52634 53345: contig of 712 bp in length
* 53346 53445: gap of 100 bp
* 53446 54158: contig of 713 bp in length
* 54159 54258: gap of 100 bp
* 54259 54943: contig of 685 bp in length
* 54944 55043: gap of 100 bp
* 55044 55754: contig of 711 bp in length
* 55755 55854: gap of 100 bp
* 55855 56549: contig of 655 bp in length
* 56550 56649: gap of 100 bp
* 56650 57354: contig of 705 bp in length
* 57355 57454: gap of 100 bp
* 57455 58168: contig of 714 bp in length
* 58169 58268: gap of 100 bp
* 58269 58987: contig of 719 bp in length

Query Match 4.3%; Score 22; DB 2; Length 66325;
Best Local Similarity 100.0%; Pred. No. 1.1;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 333 AACGAAGAGAGAGAGAGCAG 354
Db 44264 AAGGAAGAGAGAGAGCAG 44285

RESULT 9
AC090991
LOCUS Homo sapiens chromosome 15 clone RP11-100A21 map 15, LOW-PASS
DEFINITION AC090991
SEQUENCE SAMPLING.
ACCESSION AC090991
VERSION AC090991.1 GI:13431041

C	83	17	3.3	184	22	ABA65111	Human foetal liver
C	84	17	3.3	184	22	ABA32214	Probe #10680 for g
C	85	17	3.3	184	22	AAK39270	Human bone marrow
C	86	17	3.3	184	22	AAI20082	Probe #10015 for g
C	87	17	3.3	184	22	AAI45281	Probe #13967 used
C	88	17	3.3	184	22	AAI05788	Probe #7779 used t
C	89	17	3.3	184	24	ABS13356	Human genome-deriv
C	90	17	3.3	187	22	AAH70946	Human cervical can
C	91	17	3.3	223	22	AAAS4323	DNA encoding novel
C	92	17	3.3	244	21	AAAC08367	Human secreted pro
C	93	17	3.3	354	22	ABA42072	Human breast cell
C	94	17	3.3	354	22	ABA52494	Human foetal liver
C	95	17	3.3	354	22	ABA22284	Probe #750 for gen
C	96	17	3.3	354	22	AAK26211	Human bone marrow
C	97	17	3.3	354	22	AAI10843	Probe #776 for gen
C	98	17	3.3	354	22	AAI32102	Probe #788 used to
C	99	17	3.3	354	22	AAI00767	Probe #758 used to
C	100	17	3.3	354	24	ABS00798	Human genome-deriv

ALIGNMENTS

RESULT 1

AA227933 standard; DNA; 509 BP.

AA227933; 20-DEC-1999 (first entry)

Feline B7-2 protein (larger fragment) encoding DNA.

B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; feline; graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Felis catus.

WO9947558-A2.

23-SEP-1999.

19-MAR-1999; 99WO-US06187.

19-MAR-1998; 98US-0078765.

17-APR-1998; 98US-0062597.

(HESK-) HESKA CORP.

Sim G, Yang S, Sellins KS;

WPI; 1999-571822/48.

P-PSDB; AA41080.

New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases

Claim 1; Page 125-126; 148pp; English.

The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.

Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;

Query Match 100.0%; Score 509; DB 20; Length 509;

Best Local Similarity 100.0%; Pred. No. 1,9e-247; Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ATACAGGTATACCCAGAACCTAAGAGATATTTTACGTAACACTGAGATTACACT	60
Db	1	ATACAGGTATACCCAGAACCTAAGAGATATTTTACGTAACACTGAGATTACACT	60
QY	61	ACTAAGTATATCTCATATGATGAAGAAATCTCAAAATATATGACAGAACTGTAACGTT	120
Db	61	ACTAAGTATATCTCATATGATGAAGAAATCTCAAAATATATGACAGAACTGTAACGTT	120
QY	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG	180
Db	121	TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG	180
QY	181	AAACTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATATGATGACAGAACTAG	240
Db	181	AAACTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATATGATGACAGAACTAG	240
QY	241	GATTAAGACCCCTGACAAAGGCACTTCCTGATTCGCGCTGACTGTATATGTTGTT	300
Db	241	GATTAAGACCCCTGACAAAGGCACTTCCTGATTCGCGCTGACTGTATATGTTGTT	300
QY	301	GTTTTTTTGGGATGGTGTCTTTTAAACACTTAAGGAAAGAGAAAGCAAGCCTGCG	360
Db	301	GTTTTTTTGGGATGGTGTCTTTTAAACACTTAAGGAAAGAGAAAGCAAGCCTGCG	360
QY	361	CCCTCATGATGATGTGAACACATCAAAAGGAGAGAAAGAGCAACAGCAACGAA	420
Db	361	CCCTCATGATGATGTGAACACATCAAAAGGAGAGAAAGAGCAACAGCAACGAA	420
QY	421	AGAGTACCATACCAAGTACCTGAGAGATCTGATGAAGCCCACTGTATTAACATTTGAAG	480
Db	421	AGAGTACCATACCAAGTACCTGAGAGATCTGATGAAGCCCACTGTATTAACATTTGAAG	480
QY	481	ACAGCCTCAGGAGCAAAAGTACTACACA	509
Db	481	ACAGCCTCAGGAGCAAAAGTACTACACA	509

RESULT 2

AA227934/C AA227934 standard; DNA; 509 BP.

AA227934;

20-DEC-1999 (first entry)

Feline B7-2 gene (larger fragment) complementary DNA sequence.

B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; feline; graft rejection; inflammation; arthritis; atopic dermatitis; ss.

Felis catus.

WO9947558-A2.

23-SEP-1999.

19-MAR-1999; 99WO-US06187.

19-MAR-1998; 98US-0078765.

17-APR-1998; 98US-0062597.

(HESK-) HESKA CORP.

Sim G, Yang S, Sellins KS;

WPI; 1999-571822/48.

New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases

XX Claim 1; Page 127; 148bp; English.
 PS The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;
 SQ

Query Match 100.0%; Score 509; DB 20; Length 509;
 Best Local Similarity 100.0%; Pred. No. 1.9e-247;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTTAAGACCTGAGAAATTCACACT 60
 DB ATACAAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTTAAGACCTGAGAAATTCACACT 450
 QY 61 ACTAAGTATGATGCTGCTGTAAGAAATCTCAAAATATGTCACAGAACTGTACAACTGTT 120
 DB 449 ACTAAGTATGATGCTGCTGTAAGAAATCTCAAAATATGTCACAGAACTGTACAACTGTT 390
 QY 121 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 DB 389 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 330
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCAATATATGATGCACAACTTAAG 240
 DB 329 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCAATATATGATGCACAACTTAAG 270
 QY 241 GATTAAGACCTGAGAACGCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT 300
 DB 269 GATTAAGACCTGAGAACGCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT 210
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGGCTGAGC 360
 DB 209 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGGCTGAGC 150
 QY 361 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAAAGAGAGCAACCAACGAA 420
 DB 149 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAAAGAGAGCAACCAACGAA 90
 QY 421 AGAGTACCATACAGCTACCTGAGAGATGCTGATGAAGCCCACTGTATTACATTTTGAAG 480
 DB 89 AGAGTACCATACAGCTACCTGAGAGATGCTGATGAAGCCCACTGTATTACATTTTGAAG 30
 QY 481 ACAGCCTCAGGCGACAAAAGTACTACACA 509
 DB 29 ACAGCCTCAGGCGACAAAAGTACTACACA 1

RESULT 3
 AA227931
 ID AA227931 standard; DNA; 996 BP.
 XX
 AC AA227931;
 DT 20-DEC-1999 (first entry)
 XX
 DE Feline B7-2 protein coding sequence.
 XX
 KW B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 OS Felis catus.
 XX
 PN W09947558-A2.

XX 23-SEP-1999.
 PD
 XX 19-MAR-1999; 99WO-US06187.
 PF
 XX 19-MAR-1998; 98US-0078765.
 PR
 XX 17-APR-1998; 98US-0062597.
 PR
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 DR WPI; 1999-571822/48.
 DR P-PSDB; AAY41079.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 XX
 PS Claim 1; Page 123-124; 148bp; English.
 PS

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX Sequence 996 BP; 319 A; 219 C; 203 G; 255 T; 0 other;
 SQ

Query Match 100.0%; Score 509; DB 20; Length 996;
 Best Local Similarity 100.0%; Pred. No. 1.9e-247;
 Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTTAAGACCTGAGAAATTCACACT 60
 DB 484 ATACAAGGTTACCCAGAACCTTAAGAGATGTAATTTTCAGCTTAAGACCTGAGAAATTCACACT 543
 QY 61 ACTAAGTATGATGCTGCTGTAAGAAATCTCAAAATATGTCACAGAACTGTACAACTGTT 120
 DB 544 ACTAAGTATGATGCTGCTGTAAGAAATCTCAAAATATGTCACAGAACTGTACAACTGTT 603
 QY 121 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 DB 604 TCTATCAGCTTGCTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 663
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCAATATATGATGCACAACTTAAG 240
 DB 664 AAACGTGAGACACTGAGATGCTGCTCCCTCACTTCAATATATGATGCACAACTTAAG 723
 QY 241 GATTAAGACCTGAGAACGCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT 300
 DB 724 GATTAAGACCTGAGAACGCACTTCCCTGATTTGGCGCTGTACTGTATGTTTGT 783
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGAGGCTGAGC 360
 DB 784 GTTTTGTGGGATGCTGCTTTTAAACACTAAGGAAAGAAAGAGAGGCTGAGC 843
 QY 361 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAAAGAGAGCAACCAACGAA 420
 DB 844 CCTCTCATGAATGTGAACAATCAAAAGGAGAGAGAAAGAGAGCAACCAACGAA 903
 QY 421 AGAGTACCATACAGCTACCTGAGAGATGCTGATGAAGCCCACTGTATTACATTTTGAAG 480
 DB 904 AGAGTACCATACAGCTACCTGAGAGATGCTGATGAAGCCCACTGTATTACATTTTGAAG 963
 QY 481 ACAGCCTCAGGCGACAAAAGTACTACACA 509
 DB 964 ACAGCCTCAGGCGACAAAAGTACTACACA 992

```
RESULT 4
AAZ27932/c
ID AAZ27932 standard; DNA; 996 BP.
XX
AC AAZ27932;
XX
DT 20-DEC-1999 (first entry)
XX
DE Complementary strand of feline B7-2 coding sequence.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Fells catus.
XX
PN W09947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Slim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 124-125; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 996 BP; 255 A; 203 C; 219 G; 319 T; 0 other;
Query Match 100.0%; Score 509; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 1.9e-247;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTCACT 60
DB 513 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTCACT 454
QY 61 ACTAAGTATGATCTGTCATGAGAAGAAATCTCAAAATATGTGACAGAACTGTAACAAGT 120
DB 453 ACTAAGTATGATCTGTCATGAGAAGAAATCTCAAAATATGTGACAGAACTGTAACAAGT 394
QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAAACACACAAATGTGAGCGCTTTTGTGCCCTG 180
DB 393 TCTATCAGCTTGCTTTTTCAGTCCCTGAAACACACAAATGTGAGCGCTTTTGTGCCCTG 334
QY 181 AAATCGAGACACTGGAGATGCTGCTCCCTACTCTTCAATATAGTGCACAACCTAAG 240
DB 333 AAATCGAGACACTGGAGATGCTGCTCCCTACTCTTCAATATAGTGCACAACCTAAG 274
QY 241 GATAAAGACCCCTGAACAGGCACTTCCCTGATTCGGCTGACTTGTAAATGTTTGT 300
DB 273 GATAAAGACCCCTGAACAGGCACTTCCCTGATTCGGCTGACTTGTAAATGTTTGT 214
QY 301 GTTTTGTGAGATGCTGCTTTTAAACAATAAGAAAAAGAAAGAAAGCAAGCCTGCG 360
```

```
DB 213 GTTTTGTGAGATGCTGCTTTTAAACAATAAGAAAAAGAAAGAAAGCAAGCCTGCG 154
QY 361 CCCTGTCATGATGTGGAACCATCAAAAGGGAGAGAAAAAGAGCAACACACAGCA 420
DB 153 CCCTGTCATGATGTGGAACCATCAAAAGGGAGAGAAAAAGAGCAACACAGCA 94
QY 421 AGAGTACCATACAGTACCTGAGATCTGATGAAGCCCACTGATTAACTTTTGAAG 480
DB 93 AGAGTACCATACAGTACCTGAGATCTGATGAAGCCCACTGATTAACTTTTGAAG 34
QY 481 ACAGCCTCAGGCGACAAAAGTACTACACA 509
DB 33 ACAGCCTCAGGCGACAAAAGTACTACACA 5
RESULT 5
AAZ27929
ID AAZ27929 standard; DNA; 2830 BP.
XX
AC AAZ27929;
XX
DT 20-DEC-1999 (first entry)
XX
DE Feline B7-2 protein encoding DNA.
XX
KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
KW allergic reaction; infectious disease; tumor development; feline;
KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
OS Fells catus.
XX
PN W09947558-A2.
XX
PD 23-SEP-1999.
XX
PF 19-MAR-1999; 99WO-US06187.
XX
PR 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
PA (HESK-) HESKA CORP.
XX
PI Slim G, Yang S, Sellins KS;
XX
DR WPI; 1999-571822/48.
DR P-PSDB; AA41079.
XX
PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
PT treating, e.g. autoimmune and atopic diseases
XX
PS Claim 1; Page 116-119; 148pp; English.
XX
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
XX
SQ Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;
Query Match 100.0%; Score 509; DB 20; Length 2830;
Best Local Similarity 100.0%; Pred. No. 1.9e-247;
Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTCACT 60
DB 662 ATACAAGGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGGAATTCACT 721
```

	CC	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
	CC	development, graft rejection, inflammation, arthritic and atopic diseases
	CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,
	CC	cats, cattle, sheep or pets. The products can also be used for detection,
	CC	diagnosis and drug screening.
SQ	xx	
		Sequence 2830 BP; 797 A; 586 C; 570 G; 877 T; 0 other;
		Query Match 100.0%; Score 509; DB 20; Length 2830;
		Best Local Similarity 100.0%; Pred. No. 1,9e-247;
		Matches 509; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY	1	ATCAGAGTTACCCAGAACCTTAAGGAGATGATTATTTTCAGCTAAACACTGGAAATTCAACT 60
Db	2169	ATACAAGGTATCCCAACAACTAAGGAGATGATTATTTTCAGCTAAACACTGGAAATTCAACT 2110
OY	61	ACTAAGTATATVCTGTCACTGAAGAANAATCTCAAATAATGTGACAGAACTGTACAACGTT 120
Db	2109	ACTAAGTATATVCTGTCACTGAAGAANAATCTCAAATAATGTGACAGAACTGTACAACGTT 2050
OY	121	TCTATCAGCTTGCCCTTTTTCAGTCCCTGAAGCACACAAATGTGACCCTTTTGTGCCCTG 180
Db	2049	TCTATCAGCTTGCCCTTTTTCAGTCCCTGAAGCACACAAATGTGACCCTTTTGTGCCCTG 1990
OY	181	AAACTGAGACACTGGAGAGATGCTGCTCCCTACCTTTCATATAGATGCACAACCTAAG 240
Db	1989	AAACTGAGACACTGGAGAGATGCTGCTCCCTACCTTTCATATAGATGCACAACCTAAG 1930
OY	241	GATAAACACCCCTGAACAGGCCACTTCTCGTGATTTGGGCGTGATCTTGTAAATGTTTGT 300
Db	1929	GATAAACACCCCTGAACAGGCCACTTCTCGTGATTTGGGCGTGATCTTGTAAATGTTTGT 1870
OY	301	GTTTTTGTGGAGVTGTGTCCTTTAAAAACCTAAGAAAAGAAAGAACGACCTGGC 360
Db	1869	GTTTTTGTGGAGVTGTGTCCTTTAAAAACCTAAGAAAAGAAAGAACGACCTGGC 1810
OY	361	CCCCTCATGAATGTGAANCCATCAAAAGSGAGAAAAGAGACCAACGACCAACGAA 420
Db	1809	CCCCTCATGAATGTGAANCCATCAAAAGSGAGAAAAGAGACCAACGACCAACGAA 1750
OY	421	AGATACCATATACACGATACCTGAGAGATCTGATGAAAGCCAGTAGTATTAACTTTTGAAG 480
Db	1749	AGATACCATATACACGATACCTGAGAGATCTGATGAAAGCCAGTAGTATTAACTTTTGAAG 1690
OY	481	ACAGCTCAGGCGCAAAAGTACTACACA 509
Db	1689	ACAGCTCAGGCGCAAAAGTACTACACA 1661
		RESULT 7
ID	AAZ34838	
XX	AAZ34838 standard; cDNA; 1080 BP.	
AC	AAZ34838:	
DT	28-FEB-2000 (first entry)	
DE	Feline CD86 (B7-2) cDNA.	
XX	CD86; B7-2; feline; cat; recombinant virus; vaccine;	
KM	immunomodulator; tumour; cancer; therapy; ss.	
OS	Felis domesticus.	
XX		
FH	Key	Location/Qualifiers
FT	CDS	63..1052
FT		/*tag= a
XX		
PN	W09957295-AI.	
XX		
PD	11-NOV-1999.	
XX		
XP	30-APR-1999; 99WD-U0509504.	

XX 01-MAY-1998; 98US-0071711.
 PR (SCHE) SCHERING-PLOUGH LTD.
 XX (SCHE) SCHERING-PLOUGH VETERINARY CORP.
 PA
 XX Wmslow BJ, Cochran MD;
 PI
 XX WPI: 2000-062155/05.
 DR P-PSDB: AAY32285.
 DR

XX Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines
 PT
 XX Disclosure: Fig 3A; 230pp; English.

XX This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences;
 CC capable of suppressing an immune response in a feline, e.g. for
 CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
 CC to reduce or eliminate a tumour in cats.

XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 91.4%; Score 465; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 3.5e-225;
 Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGAGTTACCCAGACCTAGAGAGTATTTACGCTAACCTGAGAACTCAACT 60
 DB 546 ATACAGAGTTACCCAGACCTAGAGAGTATTTACGCTAACCTGAGAACTCAACT 605
 QY 61 ACTAAGTATGATCTGTCATGAGAATAATCTCAAAATATGTGACAGACTGTACAACTGTT 120
 DB 606 ACTAAGTATGATCTGTCATGAGAATAATCTCAAAATATGTGACAGACTGTACAACTGTT 665
 QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCACAATGTGAGCGCTTTTGTGCGCTTG 180
 DB 666 TCTATCAGCTTGCTTTTTCAGTCCCTGGAAGCACAATGTGAGCGCTTTTGTGCGCTTG 725
 QY 181 AAATGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATGATGACAACCTAAG 240
 DB 726 AAATGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATGATGACAACCTAAG 785
 QY 241 GATAAAGACCCCTGAACAGGCCACTTCTCTGATTTGGGCTTACTTGTATGTTGTT 300
 DB 786 GATAAAGACCCCTGAACAGGCCACTTCTCTGATTTGGGCTTACTTGTATGTTGTT 845
 QY 301 GTTTTGTGGAGTGTGCTTCTTAAACACTAAGGAAAGGAAAGGAAAGGAGCCCTGGC 360
 DB 846 GTTTTGTGGAGTGTGCTTCTTAAACACTAAGGAAAGGAAAGGAGGAGCCCTGGC 905
 QY 361 CCCTTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGCAACAGACCAACGAA 420
 DB 906 CCCTTCATGAATGTGAACCATCAAAAGGAGAGAGAGAGCAACAGACCAACGAA 965
 QY 421 AGAGTACCATACACGTAAGTGTGATGAGAAAGCCAGTGT 465
 DB 966 AGAGTACCATACACGTAAGTGTGATGAGAAAGCCAGTGT 1010

RESULT 8
 AA234795
 ID AA234785 standard; cDNA; 1080 BP.
 XX
 AC AA234785;
 XX
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 KW CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KW FIV; feline leukaemia virus; feline infectious peritonitis virus;
 KW feline panleukopenia virus; feline calicivirus; feline reovirus-3;
 KW feline rotavirus; feline coronavirus; feline syncytial virus;
 KW feline sarcoma virus; feline herpesvirus; feline Borna disease;
 KW rabies virus; chlamydia; toxoplasmosis gondii; dirofilaria immitis;
 KW parasite; autoimmune disease; transplant rejection; therapy; ss.
 KW
 XX Fells domesticus.
 XX
 OS
 XX
 FH Key Location/Qualifiers
 FT 63..1055
 FT CDS /*tag= a
 FT
 XX
 PN W09957271-A2.
 XX
 PD 11-NOV-1999.
 XX
 PE 30-APR-1999; 99WO-US09502.
 XX
 PR 01-MAY-1998; 98US-0071699.
 XX
 PA (TEXA) TEXAS A & M SYSTEM.
 XX
 XX
 PI Collision EW, Hash SM, Choi I;
 XX
 DR WPI: 2000-052972/04.
 DR P-PSDB: AAY32278.
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species -
 PS
 PS Claim 6; Fig 3A; 186pp; English.
 XX
 CC This is the nucleotide sequence of cDNA encoding feline CD86
 CC (B7-2) ligand (see AAY32278). It was obtained following RT-PCR of
 CC peripheral blood mononuclear cell mRNA and RACE-PCR. A vector
 CC comprising nucleic acid encoding feline CD86 ligand or feline
 CC soluble CD80 ligand is designated PST-2419-2/011298 (ATCC 209821).
 CC The coexpression of CD86 with the co-stimulatory molecules CD28 (see
 CC AAY32279) and a tumour antigen or an antigen from a pathogenic
 CC organism has the ability to activate or enhance activation of
 CC T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has
 CC the ability to regulate activation of T-lymphocytes. The invention
 CC provides isolated nucleic acids encoding feline CD86 ligand,
 CC feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4
 CC (CD152) receptor, as well as vectors comprising the nucleic acids,
 CC and polypeptides encoded by the nucleic acids. It also provides
 CC vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and
 CC further comprising immunogens derived from pathogens, especially
 CC feline immunodeficiency virus (FIV), feline leukaemia virus,
 CC feline infectious peritonitis virus, feline panleukopenia virus,
 CC feline calicivirus, feline reovirus-3, feline rotavirus, feline
 CC coronavirus, feline syncytial virus, feline sarcoma virus, feline
 CC herpesvirus, feline Borna disease virus, rabies virus, chlamydia,
 CC Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial
 CC pathogen, or parasite (all claimed). Vaccines capable of
 CC enhancing an immune response, and vaccines capable of suppressing
 CC an immune response (suitable for treating an autoimmune disease
 CC or tissue or organ transplant rejection) are claimed. The
 CC nucleic acids may be used for gene therapy or antisense therapy

CC protocols.

XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

SQ Query Match 91.4%; Score 465; DB 21; Length 1080;

Best Local Similarity 100.0%; Pred. No. 3.5e-225;

Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTTAACACTGAGTAATTCACCT 60
   |||||||
Db 546 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTTAACACTGAGTAATTCACCT 605
QY 61 ACTAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 120
   |||||||
Db 606 ACTAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 665
QY 121 TCTATGAGTTCCTTTTTCAGTCCCTGGAAGCACACATGAGCGCTTTTGCCCTG 180
   |||||||
Db 666 TCTATGAGTTCCTTTTTCAGTCCCTGGAAGCACACATGAGCGCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGAGAGATGCTCTCCCTACCTTTCAATATAGATGACAACTAAG 240
   |||||||
Db 726 AAACGTGAGACACTGAGAGATGCTCTCCCTACCTTTCAATATAGATGACAACTAAG 785
QY 241 GATTAAGACCCCTGAAAGGCACTTCTCTGATTCGGCTGTACTTGAATGTTTGT 300
   |||||||
Db 786 GATTAAGACCCCTGAAAGGCACTTCTCTGATTCGGCTGTACTTGAATGTTTGT 845
QY 301 GTTTTGTGGAGTGTGTCTTTTAAACACTAAGAAAGAAAGAAAGCAAGCCCTGGC 360
   |||||||
Db 846 GTTTTGTGGAGTGTGTCTTTTAAACACTAAGAAAGAAAGAAAGCAAGCCCTGGC 905
QY 361 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
   |||||||
Db 906 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 965
QY 421 AGATGACCATACACGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 465
   |||||||
Db 966 AGATGACCATACACGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1010

```

RESULT 9

AAL46840

ID AAL46840 standard; cDNA; 1080 BP.

XX AAL46840;

XX 08-AUG-2002 (first entry)

XX Feline CD86 coding sequence.

XX Cat; CD28; CTLA-4; CD86; immunogen; vaccine; viral infection;
 KW feline immunodeficiency disease; feline infectious peritonitis;
 KW feline leukemia virus; cancer; degenerative disease; autoimmune disease;
 KW virucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.
 XX
 OS Felis catus.
 XX
 PN US2002051792-A1.
 XX
 PD 02-MAY-2002.
 XX
 PF 30-APR-1999; 99US-0303040.
 XX
 PR 01-MAY-1998; 98US-083870P.
 XX
 PA (WINS/) WINSLOW B J.
 PA (COCH/) COCHRAN M D.
 XX
 XX Winslow BJ, Cochran MD;
 PI
 DR WPI; 2002-415200/44.
 DR P-PSDB; AAO17734.

XX New recombinant virus, useful for immunizing felines to prevent or
 PT treat feline immunodeficiency virus, comprises foreign nucleic acid
 PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
 PT CD86 or CTLA-4.
 XX
 XX Disclosure; Fig 3; 77pp; English.

CC The present invention relates to a recombinant virus comprising at least
 CC one foreign nucleic acid encoding a protein selected from feline
 CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
 CC which is capable of expression when the virus is introduced into an
 CC appropriate host. The virus can be administered to the feline in order to
 CC elicit or enhance an immune response to prevent or treat feline
 CC immunodeficiency disease, feline leukemia, feline infectious peritonitis,
 CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
 CC present sequence is the coding sequence of a cytotoxic T lymphocyte
 CC accessory molecule described in the exemplification of the invention.

SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;

Query Match 91.4%; Score 465; DB 24; Length 1080;

Best Local Similarity 100.0%; Pred. No. 3.5e-225;

Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTTAACACTGAGTAATTCACCT 60
   |||||||
Db 546 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTTAACACTGAGTAATTCACCT 605
QY 61 ACTAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 120
   |||||||
Db 606 ACTAGTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 665
QY 121 TCTATGAGTTCCTTTTTCAGTCCCTGGAAGCACACATGAGCGCTTTTGCCCTG 180
   |||||||
Db 666 TCTATGAGTTCCTTTTTCAGTCCCTGGAAGCACACATGAGCGCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGAGAGATGCTCTCCCTACCTTTCAATATAGATGACAACTAAG 240
   |||||||
Db 726 AAACGTGAGACACTGAGAGATGCTCTCCCTACCTTTCAATATAGATGACAACTAAG 785
QY 241 GATTAAGACCCCTGAAAGGCACTTCTCTGATTCGGCTGTACTTGAATGTTTGT 300
   |||||||
Db 786 GATTAAGACCCCTGAAAGGCACTTCTCTGATTCGGCTGTACTTGAATGTTTGT 845
QY 301 GTTTTGTGGAGTGTGTCTTTTAAACACTAAGAAAGAAAGAAAGCAAGCCCTGGC 360
   |||||||
Db 846 GTTTTGTGGAGTGTGTCTTTTAAACACTAAGAAAGAAAGAAAGCAAGCCCTGGC 905
QY 361 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
   |||||||
Db 906 CCCCTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 965
QY 421 AGATGACCATACACGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 465
   |||||||
Db 966 AGATGACCATACACGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1010

```

RESULT 10

ABK48230

ID ABK48230 standard; cDNA; 1080 BP.

XX ABK48230;

XX 02-JUL-2002 (first entry)

XX cDNA encoding feline CD86 protein.

XX Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
 KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
 KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
 KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
 KW feline leukemia; Felv; calicivirus; rotavirus; reovirus type 3;

KM coronavirus; herpes; borna disease.
 XX Felis sp.
 OS Key Location/Qualifiers
 FH CDS 63..1052 /*tag= a
 FT /product= "CD86 protein"
 FT
 XX US2002028208-A1.
 PN
 XX 07-MAR-2002.
 PD
 XX 30-APR-1999; 99US-0303510.
 PF
 XX 01-MAY-1998; 98US-083869P.
 PR
 XX (COLL/) COLLISSON E W.
 PA (HASH/) HASH S M.
 PA (CHOI/) CHOI I.
 XX
 PI Collisson EM, Hash SM, Choi I;
 XX
 XX WPI; 2002-315045/35.
 DR P-PSDB; AA078121.
 XX
 PT Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28
 PT receptor or CTLA-4 receptor as vaccine for inducing immune response in
 PT feline suffering from autoimmune disease or tissue or organ transplant
 PT
 XX
 XX Claim 6; Fig 3A; 73pp; English.
 PS
 XX This invention relates to the DNA and protein sequences encoding a
 CC soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound
 CC CD28 receptor and soluble or membrane bound CTLA-4 receptor. The
 CC invention also relates to a vaccine comprising an effective amount of
 CC these receptor proteins. A vaccine is useful for inducing immunity or
 CC enhancing an immune response in a cat. The protein sequences of the
 CC invention are useful for suppressing an immune response in a feline
 CC suffering from an autoimmune disease or the recipient of a tissue or
 CC organ transplant. A vector containing the DNA sequences of the
 CC invention is useful for redirecting an immune response in a feline to an
 CC immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,
 CC feline immunodeficiency virus (FIV), feline leukaemia (FeLV), feline
 CC infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,
 CC reovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,
 CC sarcoma virus, borna disease virus or a parasite. The protein sequences
 CC may be further utilised to promote growth in homologous or heterologous
 CC feline species. Enhancement of immunity through the interaction of an
 CC soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an
 CC immune response through the interaction of feline CD80 or CD86 with
 CC CTLA-4 takes advantage of the natural process of regulation rather than
 CC adding foreign substances that could have multiple, even detrimental
 CC effects on overall or long term health. The present sequence represents
 CC a cDNA encoding the feline CD86 protein of the invention.
 XX
 XX Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 SQ
 Query Match 91.4%; Score 465; DB 24; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 3.5e-225;
 Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 666 TCTATCAGCTTCCTTTTCACTCCCTGAGCACAACAATGTGAGCGTCTTTTGCCCTG 725
 Qy 181 AAACGTGGACACACTGGAGATGCTGCTCCCTACCTTCATATATGATGACAACTTAG 240
 Db 726 AAACGTGGACACACTGGAGATGCTGCTCCCTACCTTCATATATGATGACAACTTAG 785
 Qy 241 GATTAAGACCTGGAACAAGGACCTTCTCTGATGCGGCTGTACTTGTATGTTTGT 300
 Db 786 GATTAAGACCTGGAACAAGGACCTTCTCTGATGCGGCTGTACTTGTATGTTTGT 845
 Qy 301 GTTTTTTGTGGATGCTGCTTTAAACACTTAAGAAAAGGACAGACAGCTTGGC 360
 Db 846 GTTTTTTGTGGATGCTGCTTTAAACACTTAAGAAAAGGACAGACAGCTTGGC 905
 Qy 361 CCTCTCATGATGTGAAAACCATCAAAAGGGAGAGAAAAGAGACCAACAGCAA 420
 Db 906 CCTCTCATGATGTGAAAACCATCAAAAGGGAGAGAAAAGAGACCAACAGCAA 965
 Qy 421 AGAGTACCATACACAGCTACCTGAGAGATCTGATGAAGCCCACTGT 465
 Db 966 AGAGTACCATACACAGCTACCTGAGAGATCTGATGAAGCCCACTGT 1010
 RESULT 11
 AA227935
 ID AA227935 standard; DNA; 359 BP.
 AC AA227935;
 XX 20-DEC-1999 (first entry)
 DT
 XX Feline B7-2 protein (smaller fragment) encoding DNA.
 DE
 XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KW allergic reaction; infectious disease; tumor development; feline;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.
 XX
 OS Felis catus.
 XX
 XX WO9947558-A2.
 PN
 XX 23-SEP-1999.
 PD
 XX 19-MAR-1999; 99WO-US06187.
 PF
 XX 19-MAR-1998; 98US-0078765.
 PR 17-APR-1998; 98US-0062597.
 XX
 PA (HESK-) HESKA CORP.
 XX
 PI Sim G, Yang S, Sellins KS;
 XX
 XX WPI; 1999-571822/48.
 DR P-PSDB; AAY41081.
 XX
 PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
 PT treating, e.g. autoimmune and atopic diseases
 PT
 XX Claim 1; Page 127-128; 148pp; English.
 PS
 XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 CC
 XX Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;
 SQ
 Query Match 44.6%; Score 227; DB 20; Length 359;

[illegible]

XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases
PT	
XX	Claim 1; Page 101-102; 148pp; English.
PS	
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.
CC	
XX	Sequence 1897 BP; 529 A; 383 C; 400 G; 585 T; 0 other;
SQ	
Query Match	11.0%; Score 56; DB 20; Length 1897;
Best Local Similarity	100.0%; Pred. No. 3.3e-18;
Matches	56; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY	327 AACACTTAAGAAAAGAGAAGACGCGCTGCCCTCATGAATGGAAACCA 382 Db 1092 AACACTTAAGAAAAGAGAAGACGCGCTGCCCTCATGAATGGAAACCA 1037
RESULT 17	
AAZ27923	
ID	AAZ27923 standard; DNA; 840 BP.
XX	
AC	AAZ27923:
XX	
DT	20-DEC-1999 (first entry)
XX	
DE	Canine B7-2S protein coding sequence.
B7: CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; canine; graft rejection; inflammation; arthritis; atopic dermatitis; ss. Canis familiaris.	
OS	
XX	
PN	WO9947558-A2.
PD	
XX	23-SEP-1999.
XX	
PF	19-MAR-1999; 99WO-US06187.
XX	
PR	19-MAR-1998; 98US-0078765.
PR	17-APR-1998; 98US-0062597.
XX	
PA	(HESK-) HESKA CORP.
XX	
PI	Sim G, Yang S, Sellins KS;
XX	
DR	WPI: 1999-571822/48-
DR	P-PSDB: AAY41078.
XX	
PT	New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases
XX	
PS	
CC	Claim 1; Page 114; 148pp; English.
XX	
CC	The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.
CC	

XX	SQ	Sequence	840 BP; 278 A; 181 C; 167 G; 214 T; 0 other;
OY	Query Match	8.3%; Score 42; DB 20; Length 840;	
Dd	Best Local Similarity	100.0%; Pred. No. 4,3e-11;	
	Matches 42: Conservative	0; Mismatches 0; Indels 0; Gaps 0;	
OY	60	TACTAAGTATGCTACTGCATGACGAAGAATCTCAAAATAATGT 101 TACTAAGTATGCTACTGCATGACGAAGAATCTCAAAATAATGT 581	
XX	RESULT 18		
XX	AAZ27924/C		
XX	AAZ27924 standard; DNA; 840 BP.		
XX	AAZ27924:		
XX	20-DEC-1999 (first entry)		
DE	Complementary strand of canine B7-2S coding sequence.		
KW	B7: CTLA4: T cell costimulatory protein; dog; cat; autoimmune disease; allergic reaction; infectious disease; tumor development; canine; graft rejection; inflammation; arthritis; atopic dermatitis; ss. Canis familiaris. WO9947558-A2. 23-SEP-1999. 19-MAR-1999; 99WO-US06187. 19-MAR-1998; 98US-0078765. 17-APR-1998; 98US-0062597. (HESK-) HESKA CORP. Sim G, Yang S, Sellins KS; WPI: 1999-571822/48. New isolated B7 and CTLA4 nucleic acids, used to develop products for treating, e.g. autoimmune and atopic diseases - Claim 1: Page 115; 148pp; English. The invention provides B7 and CTLA4 (T cell costimulatory proteins) encoding nucleic acid molecules from dogs and cats. The proteins can be expressed by standard recombinant methodology. The nucleic acid molecules and the encoded proteins can be used for preventing or treating diseases, e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor development, graft rejection, inflammation, arthritic and atopic diseases such as atopic dermatitis. They can be used in mammals such humans, dogs, cats, cattle, sheep or pets. The products can also be used for detection, diagnosis and drug screening.		
SQ	Sequence	840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;	
	Query Match	8.3%; Score 42; DB 20; Length 840;	
	Best Local Similarity	100.0%; Pred. No. 4.3e-11;	
	Matches 42: Conservative	0; Mismatches 0; Indels 0; Gaps 0;	
OY	60	TACTAAGTATGCTACTGCATGACGAAGAATCTCAAAATAATGT 101 TACTAAGTATGCTACTGCATGACGAAGAATCTCAAAATAATGT 260	
Dd	301	TACTAAGTATGCTACTGCATGACGAAGAATCTCAAAATAATGT 260	
XX	RESULT 19		
ID	AAZ27921		
XX	AAZ27921 standard; DNA; 1795 BP.		

```

AC AA227921;
XX
XX 20-DEC-1999 (first entry)
DT
XX
XX Canine B7-2S protein encoding DNA.
DE
XX
XX B7, CTLA4, T cell costimulatory protein; dog; cat; autoimmune disease;
KM allergic reaction; infectious disease; tumor development; canine;
KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX Canis familiaris.
OS
XX
XX WO9947558-A2.
XX
XX 23-SEP-1999.
XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI: 1999-571822/48.
XX
XX P-PSDB; AAY41078.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 109-111; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;
XX
XX Query Match 8.3%; Score 42; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 4.3e-11;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
DB 546 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 587

```

```

XX
XX 19-MAR-1999; 99WO-US06187.
XX
XX 19-MAR-1998; 98US-0078765.
XX 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
XX
XX Sim G, Yang S, Sellins KS;
XX
XX WPI: 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 112-114; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;
XX
XX Query Match 8.3%; Score 42; DB 20; Length 1795;
XX Best Local Similarity 100.0%; Pred. No. 4.3e-11;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
DB 1250 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 1209

```

```

RESULT 21
ID AAA49661 standard; cDNA; 1050 BP.
XX
XX AAA49661;
XX
XX 25-SEP-2000 (first entry)
XX
XX Pig costimulatory molecule CD86 (B7-2) cDNA.
XX
XX Co-stimulatory molecule; CD86; B7-2; pig; immunosuppressive;
XX xerotransplantation; organ transplant; vaccine; ss.
XX
XX Sus scrofa.
XX
XX FH Location/Qualifiers
XX FT 36..1013
XX FT /*tag= a
XX
XX WO200037102-A2.
XX
XX 29-JUN-2000.
XX
XX 17-DEC-1999; 99WO-GB04200.
XX
XX 19-DEC-1998; 98GB-0029721.
XX 23-OCT-1999; 99GB-0025015.
XX
XX (MLML-) ML LAB PLC.
XX
XX Lechler RI, Rogers NJ, Dorling A;
XX
XX WPI: 2000-442537/38.
XX
XX P-PSDB; AAY95321.
XX

```

CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases.

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX

SQ Sequence 20 BP; 8 A; 6 C; 3 G; 3 T; 0 other;

Query Match 3.9%; Score 20; DB 20; Length 20;
 Best Local Similarity 100.0%; Pred. No. 5.5;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 ATACAGGTTACCCAGACC 20
 ||||||||||||||||
 Db 1 ATACAGGTTACCCAGACC 20

RESULT 24

AAZ27950/c
 ID AAZ27950 standard; DNA; 20 BP.

AC AAZ27950;

DT 20-DEC-1999 (first entry)

XX Feline B7-2 gene specific antisense primer.

XX B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; PCR primer;

KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Synthetic.

OS Felis catus.

XX WO9947558-A2.

XX 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

XX 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

XX (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
 treating; e.g. autoimmune and atopic diseases

XX Example 6; Page 62; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.
 XX

SQ Sequence 20 BP; 2 A; 4 C; 5 G; 9 T; 0 other;

Query Match 3.9%; Score 20; DB 20; Length 20;
 Best Local Similarity 100.0%; Pred. No. 5.5;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 45 CGACAAAGTACTACACA 509
 ||||||||||||||||
 Db 20 CGACAAAGTACTACACA 1

RESULT 25

AAH8072
 ID AAH8072 standard; cDNA; 341 BP.

XX AAH8072;

DT 25-SEP-2001 (first entry)

XX Peppermint plant oil gland expressed cDNA 428.

XX Peppermint; plant oil gland cell; terpenoid essential oil; resin;

KW genetic mapping; antisense suppression; recombinant expression; ss.

XX Mentha x piperita.

OS WO200153319-A1.

XX 26-JUL-2001.

PF 19-JAN-2001; 2001WO-US02567.

PR 20-JAN-2000; 2000US-0177264.

XX (CROT/) CROTEAU R B.

PA (LANG/) LANGE B M.

PA (WILD/) WILDUNG M R.

XX Croteau RB, Lange BM, Wildung MR;

XX WPI; 2001-488706/53.

XX New nucleic acid molecules corresponding to mRNA molecules expressed in
 peppermint oil glands for enhancing expression of plant oil gland cell
 proteins

XX Claim 1; Page 23; 251pp; English.

XX The invention relates to nucleic acid molecules (AAH87645-AAH88116) that
 CC correspond to all or part of a mRNA molecule expressed in plant oil
 CC gland cells, especially peppermint and plant oil glands that produce
 CC terpenoid essential oils and resins. The nucleic acids are useful for
 CC genetically mapping a plant genome for genes expressed in plant oil
 CC gland cells and to suppress (for example by antisense suppression) or
 CC enhance their expression (for example by genetically transforming a
 CC plant cell with a replicable expression vector that expresses one or more
 CC proteins naturally expressed in plant oil gland cells). The nucleic acids
 CC are also useful for recombinant expression of plant oil gland proteins
 CC and/or yeast cells.
 CC

SQ Sequence 341 BP; 117 A; 68 C; 62 G; 94 T; 0 other;

Query Match 3.7%; Score 19; DB 22; Length 341;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 333 AAGCAAAAGAGAGAGAG 351
 ||||||||||||||||
 Db 66 AAGCAAAAGAGAGAGAG 84

RESULT 26

AAH42341
 ID AAH42341 standard; DNA; 2463 BP.

XX AAH42341;

DT 17-SEP-2001 (first entry)

XX Nucleotide sequence of a rat xylosyltransferase (XT) isoform XT-I.

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 67.0209 Seconds

(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggttaccaggaacc.....ggcgacaagaactacaca 509

Scoring table: OLIGO NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published Applications_NA.*
1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
2: /cgn2_6/ptodata/2/pubpna/PC1_NEW_PUB.seq:*
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/2/pubpna/PC1_PUBCOMB.seq:*
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	465	91.4	1080	10 US-09-303-510-5	Sequence 5, App1
2	465	91.4	1080	10 US-09-303-510-5	Sequence 5, App1
3	21	4.1	505	10 US-09-733-607-4	Sequence 4, App1
4	20	3.9	639	10 US-09-878-574-4316	Sequence 4, App1
5	18	3.5	210	9 US-09-962-969-31	Sequence 4, App1
6	18	3.5	210	10 US-09-837-867A-31	Sequence 31, App1
7	18	3.5	467	9 US-10-046-935-2030	Sequence 2030, App
8	18	3.5	467	9 US-09-878-178-2030	Sequence 2030, App
9	18	3.5	467	9 US-10-146-502-2030	Sequence 2030, App
10	18	3.5	481	10 US-09-974-300-6414	Sequence 6414, App
11	18	3.5	751	9 US-10-105-200A-34	Sequence 34, App1
12	18	3.5	814	9 US-10-001-857-5	Sequence 5, App1
13	18	3.5	822	10 US-09-770-445-722	Sequence 722, App
14	18	3.5	831	10 US-09-845-899A-4	Sequence 4, App1
15	18	3.5	972	9 US-09-826-025-11	Sequence 11, App1
16	18	3.5	1002	9 US-10-105-200A-33	Sequence 33, App1
17	18	3.5	1039	10 US-09-880-192-25	Sequence 25, App1
18	18	3.5	1056	10 US-09-756-983-17	Sequence 17, App1
19	18	3.5	1112	9 US-09-441-411-25	Sequence 25, App1

20	18	3.5	1120	8 US-08-592-711-3	Sequence 3, App1
21	18	3.5	1120	9 US-09-962-969-22	Sequence 22, App1
22	18	3.5	1120	10 US-09-837-867A-22	Sequence 22, App1
23	18	3.5	1161	10 US-09-962-969-24	Sequence 24, App1
24	18	3.5	1161	10 US-09-837-867A-24	Sequence 24, App1
25	18	3.5	1424	9 US-09-954-531-366	Sequence 366, App
26	18	3.5	1424	9 US-09-441-411-21	Sequence 21, App1
27	18	3.5	1424	10 US-09-962-969-556	Sequence 556, App
28	18	3.5	1491	10 US-09-892-325-3	Sequence 3, App1
29	18	3.5	1494	9 US-09-938-842A-569	Sequence 569, App
30	18	3.5	1502	10 US-09-883-797-11	Sequence 11, App1
31	18	3.5	1807	10 US-09-892-325-2	Sequence 2, App1
32	18	3.5	2508	9 US-09-938-842A-2036	Sequence 2036, App
33	18	3.5	3722	10 US-09-822-325-1	Sequence 1, App1
34	18	3.5	45839	12 US-10-025-187-3	Sequence 3, App1
35	18	3.3	153	10 US-09-878-574-7526	Sequence 7526, App
36	18	3.3	184	10 US-09-864-761-17534	Sequence 17534, A
37	18	3.3	271	10 US-09-878-574-8204	Sequence 8204, App
38	18	3.3	275	10 US-09-878-574-12123	Sequence 12123, A
39	18	3.3	354	10 US-09-864-761-750	Sequence 750, App
40	18	3.3	354	10 US-09-864-761-3828	Sequence 3828, App
41	18	3.3	366	9 US-10-015-219-792	Sequence 792, App
42	18	3.3	366	10 US-09-777-564-792	Sequence 792, App
43	18	3.3	387	9 US-10-108-605-110	Sequence 110, App
44	18	3.3	394	10 US-09-960-352-849	Sequence 849, App
45	18	3.3	406	10 US-09-878-574-2459	Sequence 2459, App
46	18	3.3	417	9 US-09-918-995-34307	Sequence 34307, A
47	18	3.3	449	9 US-09-918-995-14537	Sequence 14537, A
48	18	3.3	488	9 US-09-918-995-34571	Sequence 34571, A
49	18	3.3	506	9 US-10-001-873-21	Sequence 21, App1
50	18	3.3	588	10 US-09-864-761-13635	Sequence 13635, A
51	18	3.3	588	10 US-09-864-761-9023	Sequence 25671, A
52	18	3.3	588	10 US-09-864-761-25671	Sequence 9023, App
53	18	3.3	852	9 US-09-989-920-162	Sequence 162, App
54	18	3.3	948	9 US-09-968-436B-3	Sequence 3, App1
55	18	3.3	1269	9 US-10-169-048-61	Sequence 61, App1
56	18	3.3	1902	9 US-09-938-842A-1750	Sequence 1750, App
57	18	3.3	2000	9 US-09-938-842A-4872	Sequence 4872, App
58	18	3.3	2149	9 US-09-969-384-5	Sequence 5, App1
59	18	3.3	2404	9 US-10-102-806-257	Sequence 257, App
60	18	3.3	2780	9 US-09-968-436B-1	Sequence 1, App1
61	18	3.3	2812	12 US-10-002-600-103	Sequence 103, App
62	18	3.3	3598	10 US-09-925-301-170	Sequence 170, App1
63	18	3.3	3931	10 US-09-983-531A-5	Sequence 5, App1
64	18	3.3	15772	10 US-09-764-903-66	Sequence 66, App1
65	18	3.3	24023	9 US-10-094-679-1	Sequence 1, App1
66	18	3.3	29629	12 US-10-135-689-3	Sequence 3, App1
67	18	3.3	81001	9 US-09-842-364-1	Sequence 1, App1
68	18	3.3	81001	10 US-09-751-877-1	Sequence 1, App1
69	18	3.1	156	10 US-09-867-701-8656	Sequence 8656, App
70	18	3.1	158	10 US-09-867-701-8889	Sequence 8889, App
71	18	3.1	171	10 US-09-867-701-9325	Sequence 9325, App
72	18	3.1	182	10 US-09-867-701-9418	Sequence 9418, App
73	18	3.1	196	10 US-09-867-701-8822	Sequence 8822, App
74	18	3.1	212	10 US-09-867-701-9225	Sequence 9225, App
75	18	3.1	215	10 US-09-867-701-9278	Sequence 9278, App
76	18	3.1	218	10 US-09-864-761-23306	Sequence 23306, A
77	18	3.1	220	10 US-09-867-701-9243	Sequence 9243, App
78	18	3.1	235	10 US-09-867-701-1050	Sequence 1050, App
79	18	3.1	251	10 US-09-878-574-5600	Sequence 5600, App
80	18	3.1	254	10 US-09-960-351-1123	Sequence 1123, App
81	18	3.1	263	10 US-09-960-351-8695	Sequence 8695, App
82	18	3.1	265	10 US-09-983-965-3743	Sequence 3743, App
83	18	3.1	293	10 US-09-764-877-3814	Sequence 3814, App
84	18	3.1	317	9 US-09-854-133-17	Sequence 17, App1
85	18	3.1	317	9 US-09-738-987-17	Sequence 17, App1
86	18	3.1	322	9 US-09-232-885-254	Sequence 254, App
87	18	3.1	336	10 US-09-783-590-6964	Sequence 6964, App
88	18	3.1	338	9 US-10-060-036-4341	Sequence 4341, App
89	18	3.1	356	10 US-09-960-352-1137	Sequence 1137, App
90	18	3.1	370	10 US-09-983-965-2242	Sequence 2242, App
91	18	3.1	372	10 US-09-960-352-12437	Sequence 12437, A
92	18	3.1	373	10 US-09-878-574-2564	Sequence 2564, App

93 16 3.1 393 10 US-09-878-574-43 Sequence 43, Appl
 94 16 3.1 405 10 US-09-960-352-6079 Sequence 6079, Ap
 95 16 3.1 412 10 US-09-878-574-3125 Sequence 3125, Ap
 96 16 3.1 415 10 US-09-960-352-7603 Sequence 7603, Ap
 97 16 3.1 416 10 US-09-960-352-4477 Sequence 4477, Ap
 98 16 3.1 425 9 US-09-918-995-35000 Sequence 35000, A
 99 16 3.1 432 9 US-10-092-154-1353 Sequence 1353, Ap
 100 16 3.1 432 10 US-09-764-847-1353 Sequence 1353, Ap

ALIGNMENTS

RESULT 1
 US-09-303-510-5
 ; Sequence 5, Application US/09303510A
 ; Patent No. US20020028208A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Hash, Stephen W.
 ; APPLICANT: Collisson, Ellen W.
 ; APPLICANT: Choi, Insoo
 ; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
 ; TITLE OF INVENTION: CTLA-4 Nucleic Acid and Polypeptides
 ; FILE REFERENCE: 54954
 ; CURRENT APPLICATION NUMBER: US/09/303,510A
 ; EARLIER FILING DATE: 1999-04-30
 ; EARLIER APPLICATION NUMBER: 60/083,869
 ; EARLIER FILING DATE: 1998-05-01
 ; NUMBER OF SEQ ID NOS: 83
 ; SOFTWARE: Patent In Ver. 2.1
 ; SEQ ID NO 5
 ; LENGTH: 1080
 ; TYPE: DNA
 ; ORGANISM: Feline
 US-09-303-510-5

Query Match 91.4%; Score 465; DB 10; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 5,1e-247;

Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACCTGAGATTCAACT 60
 DB 546 ATACAAGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACCTGAGATTCAACT 605
 QY 61 ACTAAGTATGATCTGATGAGAAATCTCAAAATATATGACAGAACTGTACAAGTT 120
 DB 606 ACTAAGTATGATCTGATGAGAAATCTCAAAATATATGACAGAACTGTACAAGTT 665
 QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
 DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 725
 QY 181 AAATGAGACACTGAGATGCTCCTCCCTGACCTTCAATATAGATGACAAACCTAAG 240
 DB 726 AAATGAGACACTGAGATGCTCCTCCCTGACCTTCAATATAGATGACAAACCTAAG 785
 QY 241 GATAAAGACCTGGAACAGGCACTCTCTGATTCGCGCTGTACTTGTATGTTTGT 300
 DB 786 GATAAAGACCTGGAACAGGCACTCTCTGATTCGCGCTGTACTTGTATGTTTGT 845
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAAAGAACGCTGGC 360
 DB 846 GTTTTGTGGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAAAGAACGCTGGC 905
 QY 361 CCTCTCATGATGTGAACCATTAAGAAAGGAGAAAGAAAGAACGACCAACGAA 420
 DB 906 CCTCTCATGATGTGAACCATTAAGAAAGGAGAAAGAAAGAACGACCAACGAA 965
 QY 421 AGAGTACCATACAGTACCTGAGAGATCTGATGAGACCCAGTGT 465
 DB 966 AGAGTACCATACAGTACCTGAGAGATCTGATGAGACCCAGTGT 1010

RESULT 2

US-09-303-040-5
 ; Sequence 5, Application US/09303040
 ; Patent No. US20020051792A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Winslow, Barbara J.
 ; APPLICANT: Cochran, Mark D.
 ; TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
 ; TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or
 ; TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof
 ; FILE REFERENCE: 54957-B
 ; CURRENT APPLICATION NUMBER: US/09/303,040
 ; EARLIER FILING DATE: 1999-04-30
 ; EARLIER APPLICATION NUMBER: 60/083,870
 ; EARLIER FILING DATE: 1998-05-01
 ; NUMBER OF SEQ ID NOS: 82
 ; SOFTWARE: Patent In Ver. 2.0
 ; SEQ ID NO 5
 ; LENGTH: 1080
 ; TYPE: DNA
 ; ORGANISM: feline CD86
 ; FEATURE:
 ; NAME/KEY: CDS
 ; LOCATION: (63)..(1052)
 US-09-303-040-5

Query Match 91.4%; Score 465; DB 10; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 5,1e-247;

Matches 465; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACCTGAGATTCAACT 60
 DB 546 ATACAAGTTACCCAGAACCTTAAGAGATGATTTTTCAGCTAAACCTGAGATTCAACT 605
 QY 61 ACTAAGTATGATCTGATGAGAAATCTCAAAATATATGACAGAACTGTACAAGTT 120
 DB 606 ACTAAGTATGATCTGATGAGAAATCTCAAAATATATGACAGAACTGTACAAGTT 665
 QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 180
 DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACACAAATGTGAGCGCTTTTGTGCCCTG 725
 QY 181 AAATGAGACACTGAGATGCTCCTCCCTGACCTTCAATATAGATGACAAACCTAAG 240
 DB 726 AAATGAGACACTGAGATGCTCCTCCCTGACCTTCAATATAGATGACAAACCTAAG 785
 QY 241 GATAAAGACCTGGAACAGGCACTCTCTGATTCGCGCTGTACTTGTATGTTTGT 300
 DB 786 GATAAAGACCTGGAACAGGCACTCTCTGATTCGCGCTGTACTTGTATGTTTGT 845
 QY 301 GTTTTGTGGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAAAGAACGCTGGC 360
 DB 846 GTTTTGTGGGATGCTGCTTTTAAACACTTAAGAAAGAAAGAAAGAACGCTGGC 905
 QY 361 CCTCTCATGATGTGAACCATTAAGAAAGGAGAAAGAAAGAACGACCAACGAA 420
 DB 906 CCTCTCATGATGTGAACCATTAAGAAAGGAGAAAGAAAGAACGACCAACGAA 965
 QY 421 AGAGTACCATACAGTACCTGAGAGATCTGATGAGACCCAGTGT 465
 DB 966 AGAGTACCATACAGTACCTGAGAGATCTGATGAGACCCAGTGT 1010

RESULT 3

US-09-733-607-4/C
 ; Sequence 4, Application US/09733607
 ; Patent No. US20020042054A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Tononi, Giulio
 ; APPLICANT: Cirelli, Chiara
 ; APPLICANT: Shaw, Paul J.
 ; APPLICANT: Greenspan, Ralph J.
 ; TITLE OF INVENTION: Vigilance Nucleic Acids and Related

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 954.151 Seconds
(Without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509

Sequence: 1 atacaaggtaccagacc.....ggcgacaaagtactacaca 509

Scoring table: OLIGO_NTC

Gapop 60.0 , Gapext 60.0

Searched: 16154066 seqs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 100 summaries

Database :

EST:*
1: em_estha:*
2: em_esthum:*
3: em_estlu:*
4: em_estnu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_estr:*
9: gb_estl:*
10: gb_estl2:*
11: gb_estl3:*
12: gb_estl4:*
13: gb_estl5:*
14: gb_estl6:*
15: em_estlun:*
16: em_estlom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_liv:*
20: em_gss_pln:*
21: em_gss_vrt:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_trod:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
C 1	40	7.9	512	9	AA056905
C 2	21	4.1	167	17	A2121157
C 3	21	4.1	303	10	AV530630
C 4	21	4.1	402	10	AV802723
C 5	21	4.1	407	10	AV617088
C 6	21	4.1	408	10	AV817856

C 7	21	4.1	416	10	AV808840
C 8	21	4.1	420	17	A2235242
C 9	21	4.1	420	17	A2496704
C 10	21	4.1	423	10	AV800142
C 11	21	4.1	430	10	AV810683
C 12	21	4.1	432	10	AV810294
C 13	21	4.1	515	12	BC622615
C 14	21	4.1	749	17	AG146101
C 15	21	4.1	1259	14	BM922472
C 16	20	3.9	172	10	AM034773
C 17	20	3.9	237	12	BC628176
C 18	20	3.9	294	10	BA429395
C 19	20	3.9	335	13	BT402787
C 20	20	3.9	363	17	AZ046631
C 21	20	3.9	424	17	AQ315914
C 22	20	3.9	438	17	AQ504944
C 23	20	3.9	469	12	BF447785
C 24	20	3.9	536	17	AQ455702
C 25	20	3.9	581	9	AA145473
C 26	20	3.9	636	10	AM767798
C 27	20	3.9	781	17	BH536818
C 28	20	3.9	827	12	BG116239
C 29	20	3.9	939	17	AG177885
C 30	19	3.7	177	12	BF749521
C 31	19	3.7	216	17	AZ924333
C 32	19	3.7	265	10	BB606710
C 33	19	3.7	299	14	BP018386
C 34	19	3.7	329	12	BE825954
C 35	19	3.7	341	10	AM254786
C 36	19	3.7	345	12	BF536754
C 37	19	3.7	381	12	BF037606
C 38	19	3.7	384	10	AV812067
C 39	19	3.7	391	17	AZ638695
C 40	19	3.7	414	9	AU017834
C 41	19	3.7	415	17	AQ518306
C 42	19	3.7	418	14	BM964190
C 43	19	3.7	425	12	BF293343
C 44	19	3.7	435	14	BP010133
C 45	19	3.7	439	12	BG308450
C 46	19	3.7	458	17	B36309
C 47	19	3.7	483	17	AQ436554
C 48	19	3.7	494	12	BG544062
C 49	19	3.7	495	13	BM146985
C 50	19	3.7	520	17	AZ214107
C 51	19	3.7	538	17	AZ653795
C 52	19	3.7	539	17	AG081802
C 53	19	3.7	539	17	AQ425277
C 54	19	3.7	549	13	BQ332252
C 55	19	3.7	552	14	BQ510375
C 56	19	3.7	557	13	B1881983
C 57	19	3.7	561	13	B1534423
C 58	19	3.7	567	13	BJ088964
C 59	19	3.7	572	10	BE295909
C 60	19	3.7	581	13	BM605375
C 61	19	3.7	587	17	BM625055
C 62	19	3.7	588	17	BH684063
C 63	19	3.7	590	13	BM023714
C 64	19	3.7	592	12	BG070991
C 65	19	3.7	595	17	AZ849042
C 66	19	3.7	608	12	BC083906
C 67	19	3.7	610	13	BM103329
C 68	19	3.7	614	13	BQ333141
C 69	19	3.7	623	13	BM571199
C 70	19	3.7	638	13	BM530205
C 71	19	3.7	642	13	BP012200
C 72	19	3.7	645	17	AZ409539
C 73	19	3.7	649	17	BH514807
C 74	19	3.7	650	17	BQ089216
C 75	19	3.7	652	13	BJ089214
C 76	19	3.7	664	12	BF650796
C 77	19	3.7	681	13	BJ275154
C 78	19	3.7	684	17	AZ329007
C 79	19	3.7	684	17	AZ329007

```

80 19 3 7 692 17 A2220176 Sheared D
81 19 3 7 693 17 A2293644 RPCI-23-9
82 19 3 7 695 17 BG708661 602672589
83 19 3 7 697 17 AQ049949 nbxb0003a
84 19 3 7 723 13 B1669723 603293258
85 19 3 7 724 13 A2418977 1M0195115
86 19 3 7 727 17 A2870651 2M0183011
87 19 3 7 732 13 BM617363 170006871
88 19 3 7 738 12 BG306113 fm52d07.x
89 19 3 7 745 13 B1932910 EST552799
90 19 3 7 751 10 AM076961 f133b01.x
91 19 3 7 756 17 A2417121 1M0192110
92 19 3 7 760 17 BH518448 BOC7P27TF
93 19 3 7 774 17 AG047561 Pan t10g1
94 19 3 7 789 17 A2895812 2M0281H17
95 19 3 7 842 12 BG708702 602674248
96 19 3 7 847 17 AQ743362 HS_5387_B
97 19 3 7 869 17 A2196047 SP_1031_A
98 19 3 7 875 12 BG495687 602538361
99 19 3 7 879 17 A2207755 SP_0134_A
100 19 3 7 880 10 BE612450 601451829

```

ALIGNMENTS

```

RESULT 1
AA056905/c 512 bp mRNA linear EST 18-SEP-1996
LOCUS
DEFINITION
EST224F Pig Spleen lambda gt 11 Library (Clontech Cat # PL1006b)
Sus scrofa cDNA clone SPL224 forward similar to L25259 CTFA4
counter-receptor , human, mRNA sequence.
AA056905
AA056905.1 GI:1549545
EST.

```

```

ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
Sus scrofa
pig.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.

```

```

REFERENCE
AUTHORS
Tuggle,C.K., Mahls,S. and Schmitz,C.
TITLE
Expressed Sequence Tags from Pig Spleen
JOURNAL
Unpublished (1996)
COMMENT
Contact: Tuggle CK
Molecular Genetics Laboratory, Department of Animal Science
Iowa State University
201 Kildee Hall, Ames, IA 50011-3150, USA
Tel: 5152944252
Fax: 5152942401
Email: cktuggle@iastate.edu
PCR Primers
FORWARD: TGCGGACGACTCCTG
BACKWARD: GACCGGCGCTCAGCT
Insert Length: 950 Std Error: 50.00
Seq primer: TGCGGACGACTCCTG.

```

FEATURES

```

source
1..512
/organism="Sus scrofa"
/db_xref="taxon:9823"
/clone_lib="SPL224"
/clone_lib="Pig Spleen lambda gt 11 Library (Clontech Cat
# PL1006b)"
/lisue_type="spleen"
/dev_stage="adult"
/note="Oligo (dt) primed"
BASE COUNT
125 a 106 c 114 g 163 t 4 others
ORIGIN

```

```

Query Match
Best Local Similarity 100.0%; Pred. No. 5.8e-10;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

OY 327 AACACTAAGAAAGAGAGAGACGCTGGCCCCCTCT 366

```

DB 193 AACACTAAGAAAGAGAGAGACGCTGGCCCCCTCT 154

```

```

RESULT 2
AA121157/c 167 bp DNA linear GSS 12-MAY-2000
LOCUS
DEFINITION
RPCI-23-1G3.TV RPCI-23 Mus musculus genomic clone RPCI-23-1G3, DNA
sequence.

```

```

ACCESSION
VERSION
KEYWORDS
SOURCE
house mouse.
Mus musculus

```

ORGANISM

```

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 167)
Zhou,S., Nierman,W., Feldblyum,T., Malek,J., Shatsman,S., Akiret
,B., Levins,M., McGann,S., Tsegaye,G., Geer,K., Krol,M., de Jong,P.
and Fraser,C.M.
Mouse BAC End Sequences from Library RPCI-23
Unpublished (1999)

```

TITLE

Mouse BAC End Sequences from Library RPCI-23

JOURNAL

Other_GSS: RPCI-23-1G3.TJ

```

COMMENT
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200
Fax: 301 838 0208
Email: szhao@tigr.org

```

```

Libraries are derived from the mouse BAC library RPCI-23. For BAC
clones availability, please contact Pieter de Jong
(pieter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm)
or from Resea ch Genetics (info@resgen.com). BAC end page:
http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 1 row, 6 column: 3
Seq primer: 17
Class: BAC ends.

```

FEATURES

```

source
1..167
/organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone_lib="RPCI-23-1G3"
/clone_lib="RPCI-23"
/sex="Female"
/lab_host="DH10B"
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site:1:
EcoRI; Site:2: EcoRI; Female C57BL/6J mouse kidney and/or
brain genomic DNA was isolated and partially digested
with a combination of EcoRI and EcoRI Methylase. Size
selected DNA was cloned into the pBACe3.6 vector at the
EcoRI sites. The ligation products were transformed into
DH10B electrocompetent cells (BRL Life Technologies)."
BASE COUNT
33 a 25 c 38 g 71 t
ORIGIN

```

```

Query Match
Best Local Similarity 100.0%; Pred. No. 5.7;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

OY 206 TCTCCTACCTTCAATATAG 226

DB 23 TCTCCTACCTTCAATATAG 3

```

RESULT 3
AV530630/c 303 bp mRNA linear EST 01-SEP-2000
LOCUS
DEFINITION
AV530630 Arabidopsis thaliana flower buds Columbia Arabidopsis
thaliana cDNA clone FB006dl1f 3', mRNA sequence.

```

ACCESSION AV530630

GenCore version 5.1.4.p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 24.4088 Seconds
(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-30

Perfect score: 509
Sequence: 1 atacaagttaccagcaaac.....ggcagcaaaagtactacaca 509

Scoring table: OLIGO NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 seqs, 15338381 residues

Word size : 0

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : Issued_Patents_NA:*

- 1: /cgn2_6/ptodata/1/lna/5A.COMB.seq:*
- 2: /cgn2_6/ptodata/1/lna/5B.COMB.seq:*
- 3: /cgn2_6/ptodata/1/lna/6A.COMB.seq:*
- 4: /cgn2_6/ptodata/1/lna/6B.COMB.seq:*
- 5: /cgn2_6/ptodata/1/lna/PCITUS.COMB.seq:*
- 6: /cgn2_6/ptodata/1/lna/Backfile1.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	18	3.5	210	4	US-08-205-697A-31
2	18	3.5	210	4	US-08-702-525-31
3	18	3.5	210	5	PCT-US95-02576-31
4	18	3.5	306	3	US-08-479-744A-46
5	18	3.5	306	3	US-08-280-757B-46
6	18	3.5	751	4	US-09-039-982A-34
7	18	3.5	751	4	US-09-039-641-34
8	18	3.5	751	4	US-09-042-492D-34
9	18	3.5	751	4	US-09-042-492D-34
10	18	3.5	751	4	US-08-913-612A-34
11	18	3.5	837	5	PCT-US94-03744-1
12	18	3.5	972	4	US-08-848-760B-11
13	18	3.5	1002	4	US-09-039-982A-33
14	18	3.5	1002	4	US-09-039-641-33
15	18	3.5	1002	4	US-09-039-762A-33
16	18	3.5	1002	4	US-09-042-492D-33
17	18	3.5	1002	4	US-08-913-612A-33
18	18	3.5	1120	2	US-08-456-104-1
19	18	3.5	1120	2	US-08-101-624-1
20	18	3.5	1120	3	US-08-479-744A-1
21	18	3.5	1120	3	US-08-280-757B-1
22	18	3.5	1120	4	US-08-205-697A-22
23	18	3.5	1120	4	US-08-702-525-22
24	18	3.5	1120	4	US-08-403-253A-3
25	18	3.5	1120	5	PCT-US95-02576-22
26	18	3.5	1161	4	US-08-205-697A-24
27	18	3.5	1161	4	US-08-702-525-24

28	18	3.5	1161	5	PCT-US95-02576-24	Sequence 24, Appl
29	18	3.5	1424	4	US-09-326-186B-226	Sequence 226, Appl
30	18	3.5	1428	5	PCT-US94-09642-1	Sequence 1, Appl
31	18	3.5	1491	4	US-09-058-947A-3	Sequence 3, Appl
32	18	3.5	1502	4	US-08-868-373-11	Sequence 11, Appl
33	18	3.5	1807	4	US-09-058-947A-2	Sequence 2, Appl
34	18	3.5	3722	2	US-08-585-664B-2598	Sequence 2598, Ap
35	17	3.3	18	4	US-09-385-982-211	Sequence 211, App
36	17	3.3	619	4	US-08-890-865A-2	Sequence 2, Appl
37	17	3.3	3761	4	US-08-843-417-9	Sequence 2, Appl
38	17	3.3	6677	4	US-08-938-366-27	Sequence 27, Appl
39	17	3.3	6677	4	US-08-467-987-6	Sequence 6, Appl
40	17	3.3	10395	1	US-08-245-809-3	Sequence 3, Appl
41	17	3.3	10395	1	US-08-245-809-5	Sequence 5, Appl
42	17	3.3	10411	4	US-08-961-527-89	Sequence 89, Appl
43	17	3.3	10798	1	PCT-US92-01385-2	Sequence 2, Appl
44	17	3.3	10798	5	US-08-107-748-2	Sequence 2, Appl
45	17	3.3	10965	1	US-08-107-748-4	Sequence 4, Appl
46	17	3.3	10965	5	PCT-US92-01385-4	Sequence 4, Appl
47	17	3.3	29629	4	US-09-729-995-3	Sequence 3, Appl
48	17	3.3	29629	4	US-09-750-580-1	Sequence 1, Appl
49	17	3.3	81001	4	US-08-717-526-79	Sequence 79, Appl
50	17	3.3	36	1	US-09-134-001C-2587	Sequence 2587, Ap
51	16	3.1	291	4	US-09-370-838-17	Sequence 17, Appl
52	16	3.1	317	4	US-09-385-982-994	Sequence 994, Appl
53	16	3.1	374	4	US-09-221-017B-73	Sequence 9, Appl
54	16	3.1	404	4	US-09-070-060-9	Sequence 9, Appl
55	16	3.1	471	2	US-09-357-746-9	Sequence 263, App
56	16	3.1	471	2	US-09-328-111-763	Sequence 2, Appl
57	16	3.1	471	2	US-09-328-111-763	Sequence 178, App
58	16	3.1	475	4	US-09-328-111-538	Sequence 538, App
59	16	3.1	487	3	US-09-134-001C-2814	Sequence 572, App
60	16	3.1	490	4	US-08-456-200B-16	Sequence 1814, Ap
61	16	3.1	598	4	US-08-928-442-2	Sequence 2, Appl
62	16	3.1	606	4	US-08-035-634-1	Sequence 1, Appl
63	16	3.1	660	4	US-09-518-914-3	Sequence 1, Appl
64	16	3.1	910	4	US-09-123-030-7	Sequence 7, Appl
65	16	3.1	1314	4	US-09-444-336-7	Sequence 3, Appl
66	16	3.1	1448	1	US-08-618-164-1	Sequence 1, Appl
67	16	3.1	1508	4	US-09-315-794-51	Sequence 51, Appl
68	16	3.1	1541	4	US-09-002-298-4	Sequence 4, Appl
69	16	3.1	1558	4	US-08-461-823-1	Sequence 1, Appl
70	16	3.1	1895	4	US-09-221-017B-421	Sequence 421, App
71	16	3.1	2182	4	US-08-742-026-1	Sequence 1, Appl
72	16	3.1	2322	1	US-09-120-513-1	Sequence 22, Appl
73	16	3.1	2517	4	US-09-450-105-1	Sequence 1, Appl
74	16	3.1	2517	4	US-08-784-649A-1	Sequence 1, Appl
75	16	3.1	2726	1	US-08-181-671-2	Sequence 5, Appl
76	16	3.1	2726	1	US-08-784-649A-5	Sequence 5, Appl
77	16	3.1	2835	4	US-08-316-167-1	Sequence 2, Appl
78	16	3.1	3720	2	US-09-309-572-9	Sequence 9, Appl
79	16	3.1	4233	3	US-08-920-812-20	Sequence 20, Appl
80	16	3.1	4233	3	US-08-920-827-20	Sequence 20, Appl
81	16	3.1	4264	2	US-08-921-177-20	Sequence 20, Appl
82	16	3.1	4466	1	US-08-362-577C-20	Sequence 20, Appl
83	16	3.1	4669	2	US-08-920-828-20	Sequence 20, Appl
84	16	3.1	4669	2	US-08-793-610-5	Sequence 5, Appl
85	16	3.1	4669	2	US-08-149-0970-23	Sequence 23, Appl
86	16	3.1	4669	2	US-08-949-886-23	Sequence 23, Appl
87	16	3.1	4669	2	US-08-450-562-23	Sequence 23, Appl
88	16	3.1	4695	6	US-08-984-709A-23	Sequence 23, Appl
89	16	3.1	5541	1	US-08-450-572-23	Sequence 23, Appl
90	16	3.1	5541	1	US-08-920-812-20	Sequence 20, Appl
91	16	3.1	5541	1	US-08-920-827-20	Sequence 20, Appl
92	16	3.1	5541	1	US-08-921-177-20	Sequence 20, Appl
93	16	3.1	5541	1	US-08-362-577C-20	Sequence 20, Appl
94	16	3.1	5541	2	US-08-920-828-20	Sequence 20, Appl
95	16	3.1	5541	2	US-08-793-610-5	Sequence 5, Appl
96	16	3.1	5541	2	US-08-149-0970-23	Sequence 23, Appl
97	16	3.1	5541	2	US-08-949-886-23	Sequence 23, Appl
98	16	3.1	5541	2	US-08-450-562-23	Sequence 23, Appl
99	16	3.1	5541	2	US-08-984-709A-23	Sequence 23, Appl
100	16	3.1	7791	4	US-08-450-572-23	Sequence 23, Appl

ALIGNMENTS

```
RESULT 1
US-08-205-697A-31
; Sequence 31, Application US/08205697A
; Patent No. 6218510
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Arlene H.
; APPLICANT: Borriello, Francescopaulo
; APPLICANT: Freeman, Gordon J.
; APPLICANT: Nadler, Lee M.
; TITLE OF INVENTION: No. 6218510el Forms of T Cell Costimulatory Molecules
; TITLE OF INVENTION: and Uses Therefor
; NUMBER OF SEQUENCES: 61
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/205,697A
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 31:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 210 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: CDNA
; FEATURE:
; NAME/KEY: CDS
; LOCATION: 1..183
; US-08-205-697A-31

Query Match          3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
    |||||||||||||||
Db 112 AGATCTGATGAAGCCGAG 129

RESULT 2
US-08-702-525-31
; Sequence 31, Application US/08702525
; Patent No. 6294660
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Arlene H.
; APPLICANT: Borriello, Francescopaulo
; APPLICANT: Freeman, Gordon
; APPLICANT: Nadler, Lee
; TITLE OF INVENTION: No. 6294660el Forms of T Cell Costimulatory
; TITLE OF INVENTION: Molecules and Uses Therefor
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESS: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/02576
; FILING DATE:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/205,697
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
; REGISTRATION NUMBER: 36,207
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 31:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 210 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: CDNA
; FEATURE:
; NAME/KEY: CDS
; LOCATION: 1..183
; US-08-702-525-31

Query Match          3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
    |||||||||||||||
Db 112 AGATCTGATGAAGCCGAG 129

RESULT 3
PCT-US95-02576-31
; Sequence 31, Application PC/TUS9502576
; GENERAL INFORMATION:
; APPLICANT:
; TITLE OF INVENTION: Novel Forms of T Cell Costimulatory Molecules
; TITLE OF INVENTION: and Uses Therefor
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESS: LAHYE & COCKFIELD
; STREET: 60 State Street, suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: ASCII Text
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/02576
; FILING DATE:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/205,697
; FILING DATE: 02-Mar-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Mandragouras, Amy E.
```

```
ADDRESSEE: LAHYE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,525
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-702-525-31

Query Match          3.5%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 6.2;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 445 AGATCTGATGAAGCCGAG 462
    |||||||||||||||
Db 112 AGATCTGATGAAGCCGAG 129
```

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:45 ; Search time 1041.4 Seconds

(without alignments)
10032.545 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359
Sequence: 1 atacaaggtaccacagacc.....ggcgacaagaagtactacaca 359Scoring table: OLIGO_NUC
Gapex 60.0 , Gapext 60.0

Searched: 2054640 segs, 14551402878 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4109280

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

GenEmbl: *
1: gb_da: *
2: gb_hcg: *
3: gb_in: *
4: gb_om: *
5: gb_ov: *
6: gb_pat: *
7: gb_pi: *
8: gb_pi: *
9: gb_pi: *
10: gb_pi: *
11: gb_pi: *
12: gb_pi: *
13: gb_pi: *
14: gb_pi: *
15: gb_pi: *
16: gb_pi: *
17: gb_pi: *
18: gb_pi: *
19: gb_pi: *
20: gb_pi: *
21: gb_pi: *
22: gb_pi: *
23: gb_pi: *
24: gb_pi: *
25: gb_pi: *
26: gb_pi: *
27: gb_pi: *
28: gb_pi: *
29: gb_pi: *
30: gb_pi: *
31: gb_pi: *
32: gb_pi: *
33: gb_pi: *
34: gb_pi: *
35: gb_pi: *
36: gb_pi: *
37: gb_pi: *
38: gb_pi: *
39: gb_pi: *
40: gb_pi: *
41: gb_pi: *

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	227	63.2	1138	4	AF157827	AF157827 Pelis cat
2	227	63.2	1270	4	AB030652	AB030652 Pelis cat
3	227	63.2	2830	4	AY007704	AY007704 Pelis cat
4	42	11.7	1795	4	AF106827	AF106827 Canis fam
5	42	11.7	1897	4	AF106826	AF106826 Canis fam
6	22	6.1	98469	2	AC110936	AC110936 Rattus no
7	22	6.1	175122	2	AC111364	AC111364 Rattus no
8	22	6.1	221789	2	AC115967	AC115967 Mus muscu
9	21	5.8	133	4	AF222915	AF222915 Sus scrof
10	21	5.8	924	4	BT4291475	BT4291475 Bos tauru
11	21	5.8	994	4	PIGCD866	L76099 Sus scrofa
12	21	5.8	994	4	PIGCD866	AX027016 Sequence
13	21	5.8	53785	2	AC099866	AC099866 Mus muscu
14	21	5.8	53785	2	AC099866	AC099866 Mus muscu
15	21	5.8	91448	9	AL672061	AL672061 Human DNA
16	21	5.8	149810	2	AL691455	AL691455 Homo sapi
17	21	5.8	158647	2	AC103495	AC103495 Rattus no
18	21	5.8	159020	9	AL450307	AL450307 Human DNA
19	21	5.8	163584	2	AC127843	AC127843 Rattus no
20	21	5.8	166384	2	AC113446	AC113446 Mus muscu
21	21	5.8	167469	2	AC113882	AC113882 Rattus no
22	21	5.8	174662	2	AC026036	AC026036 Homo sapi
23	21	5.8	177552	2	AC099361	AC099361 Rattus no
24	21	5.8	181842	2	AL391823	AL391823 Homo sapi
25	21	5.8	185574	2	AC128374	AC128374 Rattus no
26	21	5.8	205221	2	AC115723	AC115723 Mus muscu
27	20	5.6	72052	2	AC121263	AC121263 Mus muscu
28	20	5.6	72052	2	AC121263	AC121263 Mus muscu
29	20	5.6	85448	5	AL645788	AL645788 Zebrafish
30	20	5.6	99509	3	LMFP1295	AL359773 Leishman
31	20	5.6	102488	2	AC110288	AC110288 Homo sapi
32	20	5.6	104792	2	AC111653	AC111653 Rattus no
33	20	5.6	115974	2	AC094317	AC094317 Rattus no
34	20	5.6	155357	2	AC118923	AC118923 Rattus no
35	20	5.6	171857	2	AC105880	AC105880 Rattus no
36	20	5.6	173906	2	AC121059	AC121059 Rattus no
37	20	5.6	178728	2	AC106461	AC106461 Rattus no
38	20	5.6	182880	2	AC107414	AC107414 Rattus no
39	20	5.6	186058	2	AC112245	AC112245 Homo sapi
40	20	5.6	189845	2	AC095282	AC095282 Rattus no
41	20	5.6	193772	9	AC007073	AC007073 Homo sapi
42	20	5.6	194881	2	AC018967	AC018967 Homo sapi
43	20	5.6	195701	2	AC091692	AC091692 Homo sapi
44	20	5.6	196452	2	AC018869	AC018869 Homo sapi
45	20	5.6	201657	9	AC006840	AC006840 Homo sapi
46	20	5.6	206082	2	AC126936	AC126936 Mus muscu
47	20	5.6	234524	2	AC102428	AC102428 Mus muscu
48	19	5.3	1239	9	HSASRFAS1	AF061978 Homo sapi
49	19	5.3	1814	9	HSFASX567	Z47992 H.sapiens F
50	19	5.3	2366	10	MMU291750	AJ291750 Mus muscu
51	19	5.3	2463	6	AX191447	AX191447 Sequence
52	19	5.3	2593	10	RNO295748	AJ295748 Rattus no
53	19	5.3	3510	3	AY043295	AY043295 Trypanoso
54	19	5.3	4316	8	AF039083	AF039083 Spindacia
55	19	5.3	40901	8	SPCC622	AL033127 S.pombe C
56	19	5.3	44005	9	AC000081	AC000081 Homo sapi
57	19	5.3	52552	9	AL133539	AL133539 Human DNA
58	19	5.3	54398	2	AC068224	AC068224 Homo sapi
59	19	5.3	62443	2	AL136973	AL136973 Human DNA
60	19	5.3	67035	2	AC113014	AC113014 Mus muscu
61	19	5.3	67590	2	AC097283	AC097283 Rattus no
62	19	5.3	70453	9	AC116332	AC116332 Homo sapi
63	19	5.3	71504	3	AC002473	AC002473 Drosophila
64	19	5.3	72354	2	AL357123	AL357123 Human DNA
65	19	5.3	74002	2	AC124990	AC124990 Mus muscu

```

c 66 19 5.3 79769 2 AC115678 Dictyoste
67 19 5.3 88933 2 AC017870 Drosophil
68 19 5.3 90592 2 AC117176 Rattus no
c 69 19 5.3 96119 2 AC110531 Mus muscu
c 70 19 5.3 97979 9 AC004739
71 19 5.3 104630 9 AC007397 Homo sapi
c 72 19 5.3 110000 2 AC091288_2 Continuation (3 of
73 19 5.3 116620 2 AC123322 AC123322 Rattus no
c 74 19 5.3 119856 2 AP004005 AP004005 Oryza sat
c 75 19 5.3 130698 2 AC128916 AC128916 Rattus no
76 19 5.3 133148 2 AC113890 AC113890 Rattus no
c 77 19 5.3 136336 2 AC123340 AC123340 Rattus no
c 78 19 5.3 137463 2 AC107474 AC107474 Rattus no
c 79 19 5.3 140791 8 AP002912 AP002912 Oryza sat
c 80 19 5.3 140899 2 AC093492 AC093492 Oryza sat
81 19 5.3 147467 2 AC118573 AC118573 Lemur cat
82 19 5.3 149094 2 AC095074 AC095074 Rattus no
83 19 5.3 149347 2 AC121998 AC121998 Mus muscu
84 19 5.3 150584 2 AC117279 AC117279 Rattus no
c 85 19 5.3 151482 2 AC068765 AC068765 Homo sapi
c 86 19 5.3 152865 2 AC135937 AL359537 Homo sapi
c 87 19 5.3 154442 2 AC083971 AC083971 Homo sapi
88 19 5.3 156645 2 AC114710 AC114710 Rattus no
89 19 5.3 158692 9 AC009490 AC009490 Homo sapi
90 19 5.3 159476 9 AC090149 AC090149 Homo sapi
91 19 5.3 159531 9 AC090575 AC090575 Homo sapi
c 92 19 5.3 160209 9 AC012324 AC012324 Homo sapi
93 19 5.3 160737 2 AC100732 AC100732 Mus muscu
94 19 5.3 161339 9 AC007535 AC007535 Homo sapi
95 19 5.3 161375 2 AC068715 AC068715 Homo sapi
96 19 5.3 162496 2 AC044846 AC044846 Mus muscu
97 19 5.3 163464 9 AC007462 AC007462 Homo sapi
98 19 5.3 164863 2 AC129780 AC129780 Mus muscu
99 19 5.3 165930 2 AC108292 AC108292 Rattus no
c 100 19 5.3 171594 3 AC099019 AC099019 Drosophil

```

ALIGNMENTS

```

RESULT 1 1138 bp mRNA linear MAM 08-MAY-2000
AF157827 Felis catus CD86 antigen (CD86) mRNA, complete cds.
ACCESSION AF157827 GI:5381423
VERSION AF157827.1 GI:5381423
KEYWORDS
SOURCE
ORGANISM

```

```

Felis catus.
Felis catus.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

```

```

REFERENCE
AUTHORS
TITLE

```

```

JOURNAL
MEDLINE
PUBMED
2 (bases 1 to 1138)
Choi,I.-S., Hash,S.M., Winslow,B.J. and Collisson,E.W.
Sequence analyses of feline B7 costimulatory molecules
Vet. Immunol. Immunopathol. 73 (3-4), 219-231 (2000)
20180222
10713336

```

```

REFERENCE
AUTHORS
TITLE

```

```

JOURNAL
MEDLINE
PUBMED
2 (bases 1 to 1138)
Choi,I.-S., Hash,S., Winslow,B.J. and Collisson,E.W.
Direct Submission
Submitted (10-JUN-1999) Veterinary Pathobiology, Texas A&M
University, Bldg. 1197 Km. 222, College Station, TX 77843, USA
Location/Qualifiers

```

```

FEATURES
source
1. 1138
/organism="Felis catus"
/db_xref="taxon:9685"
1. 1138
/gene="CD86"
63. 1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"

```

```

gene
1. 1138
/gene="CD86"
63. 1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"

```

```

CDS
1. 1138
/gene="CD86"
63. 1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"

```

```

/protein_id="AAB42974.1"
/db_xref="GI:5381424"
/translation="MGIDSTMGSHLTLLVALLISGVSSKSOAYFNKGTGELPCHEFT
NSQNSIDELIVFMODQKLYLXELFERKENPQNHLYKRTSPDKNWLRLHNVQ
IKDKGTYHCFIYKGPGLVPEHWSDDLVLANSQPEITVTSNRTENSGIINLTCS
STQGYPEREKEMFQNLNTENSTKPYTKRKSONNTLEYNSISLPEVPAHNVSVF
CALKLETFLEMLSLPEFNIDADPKDPOGHFLMLAAVLNVFVFCGWSFKTLRK
KKQPSHEHCETIKRERESKOTNRVYHVPERDEACVNIILKTASGDKNQ"
BASE COUNT 358 a 245 c 246 g 289 t
ORIGIN
Query Match 63.2%; Score 227; DB 4; Length 1138;
Best Local Similarity 100.0%; Pred. No. 1.3e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY 1 ATCAAGGTTACCCAGACCTAAGAGATGTTTTCACCTAACAAGTAATCAACT 60
DB 546 ATCAAGGTTACCCAGACCTAAGAGATGTTTTCACCTAACAAGTAATCAACT 605
QY 61 ACTAAGTATGATACCTGATGAAGAATCTCAAAATATGTCAGAACTGACAACGTT 120
DB 606 ACTAAGTATGATACCTGATGAAGAATCTCAAAATATGTCAGAACTGACAACGTT 665
QY 121 TCTATAGCTTGCTTTTTCAGTCCCTGAAGACACACATGAGCGCTTTTGCCCTG 180
DB 666 TCTATAGCTTGCTTTTTCAGTCCCTGAAGACACACATGAGCGCTTTTGCCCTG 725
QY 181 AACTGAGACACTGAGATGCTGCTCCCTACCTTCATATATAGA 227
DB 726 AACTGAGACACTGAGATGCTGCTCCCTACCTTCATATATAGA 772

```

```

RESULT 2 1270 bp mRNA linear MAM 01-MAR-2001
AB030652 Felis catus mRNA for B-lymphocyte activation antigen B7-2 (CD86),
complete cds.
ACCESSION AB030652
VERSION AB030652.1 GI:9796387
KEYWORDS
SOURCE
ORGANISM

```

```

Felis catus peripheral blood mononuclear cell cDNA to mRNA.
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.

```

```

REFERENCE
AUTHORS
TITLE

```

```

JOURNAL
MEDLINE
PUBMED
2 (bases 1 to 1270)
Nishimura,Y., Shimojima,M., Miyazawa,T., Sato,E., Nakamura,K.,
Izumiyu,Y., Ikeda,Y., Mikami,T. and Takahashi,E.
Molecular cloning of the cDNAs encoding the feline B-lymphocyte
activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which
interact with human CTLA4-Ig
Eur. J. Immunogenet. 27 (5-6), 427-430 (2000)
20485322
1. 1270
/organism="Felis catus"
/db_xref="taxon:9685"
/organism="Felis catus"
/cell_type="peripheral blood mononuclear cell"
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```

```

REFERENCE
AUTHORS
TITLE

```

```

JOURNAL
MEDLINE
PUBMED
2 (bases 1 to 1270)
Submitted (31-JUL-1999) Yorihiro Nishimura, Faculty of Agriculture,
The University of Tokyo, Department of Veterinary Microbiology;
1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan
(E-mail:yorihiro@micro.uct.ac.jp, Tel:+81-3-5841-5396,
Fax:+81-3-5841-8184)
Sequence updated (08-Jun-2000).
Location/Qualifiers
1. 1270
/organism="Felis catus"
/db_xref="taxon:9685"
/organism="Felis catus"
/cell_type="peripheral blood mononuclear cell"
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```

```

FEATURES
source
1. 1270
/organism="Felis catus"
/db_xref="taxon:9685"
/organism="Felis catus"
/cell_type="peripheral blood mononuclear cell"
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```

```

gene
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```

```

CDS
1. 1270
/gene="CD86"
240. 1238
/gene="CD86"
/codon_start=1
/product="B-lymphocyte activation antigen B7-2 (CD86)"
/protein_id="BAB11688.1"

```

```

/organism="Felis catus"
/db_xref="taxon:9685"
1. 1138
/gene="CD86"
63. 1052
/gene="CD86"
/note="B7-2 antigen"
/codon_start=1
/product="CD86 antigen"

```



```

/db_xref="GI:9796388"
/translation="MGICDSTMGISHTLLVWALLSVSSMKSOAYENKTEGPCHEPT
NSONISDELVEWODODKLIVLEIFRKGKPNPOVHLKYKGRISFDKDNMTLRLNHO
IKDKGTGHCFTHYHKGKGLVPMHOMSSDLSVLAFTSPETLTSNRENGIIINLTS
SIQGPPEKEMTFOLNTEENSTKTDIVYMKSSONNTELVNLSISLPSVEAHNVSE
CALLETLEMLSLPFINIDOPKDKDEQGHFLMIAVLVFWVFCGWSFEKTLRK
KKQGPSHCETIKRERKESKOTNERVPYHVERSDAOCVNILKTASGKSTTHF"
polyA_signal
1245..1250
/gene="CD86"

BASE COUNT      378 a      281 c      260 g      351 t
ORIGIN
Query Match      63.2%; Score 227; DB 4; Length 1270;
Best Local Similarity 100.0%; Pred. No. 1.2e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACACT 60
    |||||||
DB 723 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACACT 782
    |||||||

QY 61 ACTAGTATGATGCTGATGAGAAATCTCAAAATATGAGACACTGAGAACTT 120
    |||||||
DB 783 ACTAGTATGATGCTGATGAGAAATCTCAAAATATGAGACACTGAGAACTT 842
    |||||||

QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 180
    |||||||
DB 843 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 902
    |||||||

QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 227
    |||||||
DB 903 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 949
    |||||||

RESULT 3
AY007704      2830 bp      mRNA      linear      MAM 03-OCT-2001
LOCUS
DEFINITION   Fells catus CD86 (CD86) mRNA, complete cds.
ACCESSION   AY007704
VERSION      AY007704.1 GI:15418725
KEYWORDS
SOURCE
ORGANISM     Fells catus.
              Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
              Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.
REFERENCE
AUTHORS      Yang,S., Sellins,K.S., Powell,T., Stoneman,E. and Sim,G.K.
TITLE        Novel transcripts encoding secreted forms of feline CD80 and CD86
              costimulatory molecules
JOURNAL
MEDLINE      21390213
PUBMED       11498243
REFERENCE
PUBMED       2 (bases 1 to 2830)
AUTHORS      Yang,S.
TITLE        Direct Submission
JOURNAL      Submitted (06-SEP-2000) Immunology, Heska Corporation, 1613
              Prospect Parkway, Ft Collins, CO 80525, USA

FEATURES
SOURCE
1..2830
   /organism="Fells catus"
   /db_xref="taxon:9685"
   1..2830
   /gene="CD86"
   179..1177
   /gene="CD86"
   /note="CD28/CTLA4 counter receptor; B7-2 protein"
   /codon_start=1
   /product="CD86"
   /protein_id="AAG23342.1"
   /db_xref="GI:15418726"
   /translation="MGICDSTMGISHTLLVWALLSVSSMKSOAYENKTEGPCHEPT
   NSONISDELVEWODODKLIVLEIFRKGKPNPOVHLKYKGRISFDKDNMTLRLNHO
   IKDKGTGHCFTHYHKGKGLVPMHOMSSDLSVLAFTSPETLTSNRENGIIINLTS
   SIQGPPEKEMTFOLNTEENSTKTDIVYMKSSONNTELVNLSISLPSVEAHNVSE
   CALLETLEMLSLPFINIDOPKDKDEQGHFLMIAVLVFWVFCGWSFEKTLRK
   KKQGPSHCETIKRERKESKOTNERVPYHVERSDAOCVNILKTASGKSTTHF"
   3'UTR

```

```

CALLETLEMLSLPFINIDOPKDKDEQGHFLMIAVLVFWVFCGWSFEKTLRK
KKQGPSHCETIKRERKESKOTNERVPYHVERSDAOCVNILKTASGKSTTHF"
BASE COUNT      877 a      570 c      586 g      797 t
ORIGIN
Query Match      63.2%; Score 227; DB 4; Length 2830;
Best Local Similarity 100.0%; Pred. No. 1.2e-114;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACACT 60
    |||||||
DB 662 ATACAAGTTACCCAGAACCTTAGAGATGTAATTTTCAGCTTAACACTGAGAAATTCACACT 721
    |||||||

QY 61 ACTAGTATGATGCTGATGAGAAATCTCAAAATATGAGACACTGAGAACTT 120
    |||||||
DB 722 ACTAGTATGATGCTGATGAGAAATCTCAAAATATGAGACACTGAGAACTT 781
    |||||||

QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 180
    |||||||
DB 782 TCTATCAGCTTGCTTTTTCAGTCCCTGAAGACACAAATGTAGCGCTTTTGTGCCCTG 841
    |||||||

QY 181 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 227
    |||||||
DB 842 AAACGTGAGACACTGAGATGCTGCTCTCCCTACCTTTCATATAGA 888
    |||||||

RESULT 4
AF106827      1795 bp      mRNA      linear      MAM 14-DEC-1999
LOCUS
DEFINITION   Canis familiaris truncated B7-2 protein (CD86) mRNA, complete cds.
ACCESSION   AF106827
VERSION      AF106827.1 GI:6572518
KEYWORDS
SOURCE
ORGANISM     Canis familiaris.
              Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;
              Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
REFERENCE
AUTHORS      Yang,S. and Sim,G.K.
TITLE        New forms of dog CD80 and CD86 transcripts that encode secreted B7
              molecules
JOURNAL
MEDLINE      20093996
PUBMED       10630300
REFERENCE
PUBMED       2 (bases 1 to 1795)
AUTHORS      Yang,S. and Sim,G.K.
TITLE        Direct Submission
JOURNAL      Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825
              Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
SOURCE
1..1795
   /organism="Canis familiaris"
   /db_xref="taxon:9615"
   /cell_type="peripheral blood mononuclear cells"
   1..1795
   /gene="CD86"
   1..6
   /gene="CD86"
   7..849
   /gene="CD86"
   /function="counter-receptor for CD28 and CD152 (CTLA4)"
   /note="lacks transmembrane domain; alternatively spliced"
   /codon_start=1
   /product="truncated B7-2 protein"
   /protein_id="AA17298.1"
   /db_xref="GI:6572519"
   /translation="MYLRCYMEILNLLFVTLILYGAASMKSOAYENKTEGPCHEPTN
   SONISDELVEWODODKLIVLEIFRKGKPNPOVHLKYKGRISFDKDNMTLRLNHO
   IKDKGTGHCFTHYHKGKGLVPMHOMSSDLSVLAFTSPETLTSNRENGIIINLTS
   SIQGPPEKEMTFOLNTEENSTKTDIVYMKSSONNTELVNLSISLPSVEAHNVSE
   CALLETLEMLSLPFINIDOPKDKDEQGHFLMIAVLVFWVFCGWSFEKTLRK
   KKQGPSHCETIKRERKESKOTNERVPYHVERSDAOCVNILKTASGKSTTHF"
   3'UTR

```

```

BASE COUNT      592 a      366 c      347 g      490 t
ORIGIN
Query Match      11.7%; Score 42; DB 4; Length 1795;
Best Local Similarity 100.0%; Pred. No. 6.2e-12;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY      60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
          |||||||
Db      546 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 587

RESULT 5
AF106826      1897 bp      mRNA      linear      MAM 14-DEC-1999
LOCUS
DEFINITION    Canis familiaris B7-2 protein (CD86) mRNA, complete cds.
ACCESSION    AF106826
VERSION      AF106826.1 GI:6572516
KEYWORDS
SOURCE
ORGANISM      Canis familiaris.
               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
               Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
REFERENCE
AUTHORS      Yang,S. and Sim,G.K.
TITLE        New forms of dog CD80 and CD86 transcripts that encode secreted B7
             molecules
JOURNAL      Immunogenetics 50 (5-6), 349-353 (1999)
MEDLINE      20093996
PUBMED      10630300
REFERENCE
AUTHORS      Yang,S. and Sim,G.K.
TITLE        Direct Submission
JOURNAL      Submitted (16-NOV-1998) Basic Immunology, Heska Corporation, 1825
             Sharp Point Drive, Fort Collins, CO 80525, USA

FEATURES
source
gene
5' UTR
CDS
               /organism="Canis familiaris"
               /db_xref="taxon:9615"
               /cell_type="peripheral blood mononuclear cells"
               1..1897
               /gene="CD86"
               1..5
               /gene="CD86"
               6..995
               /gene="CD86"
               /function="counter-receptor for CD28 and CD152 (CTLA4)"
               /product="B7-2 protein"
               /protein_id="AF17297.1"
               /db_xref="GI:6572517"
               /translation="MYLQCTMELNLLFYMTLLYGAASMSQAVFNKGTGELPCHEFTN
               KNSLIDELVEWQDQDLVLYELVGRKGNPNVHVRKTSFQKDNWTLNHNIOI
               KDNGLYQCEVHNHGPQGLVPMQMSDLVNLSPQELMTNSRNENGCILNLCSS
               IOGYPKKRYEFLVKTENSTKTDYMKKSNVNVLYVSISSVSEASVNSIFC
               VIQLESMLPSLPLYNIDAHTRKPPQSDHMLTAAALLVMYVVICWSPFLLTKRRKKQ
               PGSHCECNKVRKESEOTKEVRKHETERSDCAOCVNSTASGNSSTTF"
               996..1897
               /gene="CD86"
               996..1897

BASE COUNT      585 a      400 c      383 g      529 t
ORIGIN
Query Match      11.7%; Score 42; DB 4; Length 1897;
Best Local Similarity 100.0%; Pred. No. 6.2e-12;
Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY      60 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
          |||||||
Db      545 TACTAAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 586

RESULT 6

```

```

AC110936
LOCUS
DEFINITION    Rattus norvegicus clone CH230-188M19, *** SEQUENCING IN PROGRESS
ACCESSION    AC110936
VERSION      AC110936.4 GI:21738079
KEYWORDS      HTG; HTGS; PHASE1.
SOURCE
ORGANISM      Rattus norvegicus
               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
               Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
               Rattus.
               1 (bases 1 to 98469)
REFERENCE
AUTHORS      Muzny,D.M., Adams,C., Adio-Oduola,B., Ali-osman,F.R., Allen,C.,
               Alspbrooks,S.L., Amaralunge,H.C., Are,J.R., Ayele,R., Banks,T.,
               Barbata,J., Benton,J., Blinage,K., Blankenburg,K., Bonnin,D.,
               Bouck,J., Bowie,S., Brieva,M., Brown,E., Brown,M., Bryant,N.P.,
               Buhay,C., Burch,P., Burkett,C., Burrell,K.L., Byrd,N.C.,
               Cartron,T.F., Carter,M., Cavazos,S.R., Chacko,J., Chavez,D.,
               Chen,G., Chen,R., Chen,Z., Chowdhury,I., Christopoulos,C.,
               Cleveland,C.D., Cox,C., Coyle,M.D., Dathorne,S.R., David,R.,
               Davila,M.L., Davis,C., Davy-Carroll,L., Dederich,D.A.,
               Delaney,K.R., Delgado,O., Denn,A.L., Ding,Y., Dinh,H.H.,
               Douthaite,K.J., Dreper,H., Dugan-Rocha,S., Durbin,K.J.,
               Earnhart,C., Edgar,D., Edwards,C.C., Elhaj,C., Escotto,M.,
               Falls,T., Ferraguto,D., Flagg,N., Ford,J., Foster,P., Frantz,P.,
               Gabisi,A., Gao,J., Garcia,A., Garner,T., Garza,N., Gill,R.,
               Gorrell,J.H., Guevara,W., Gunaratne,P., Hale,S., Hamilton,K.,
               Harris,C., Harris,K., Hart,M., Haylak,P., Hawes,A., Hernandez,J.,
               Hernandez,O., Hodgson,A., Hogue,M., Hollway,C., Hollins,B.,
               Homsi,F., Howard,S., Huber,J., Huliy,S., Hume,J., Jackson,L.E.,
               Jacobson,B., Jia,Y., Johnson,R., Jollivet,S., Joudah,S.,
               Karlsson,E., Kelly,S., Khan,U., King,L., Korvah,J., Kovar,C.,
               Kratovic,J., Kureshi,A., Landry,N., Leal,B., Lewis,L.C., Lewis,L.,
               Li,J., Li,Z., Lichtarge,O., Lieu,C., Liu,J., Liu,W., Loulsegod,H.,
               Lozdo,R.J., Lu,X., Lucier,A., Lucier,R., Luna,R., Ma,J.,
               Maneshwari,M., Mapua,P., Martin,R., Martindale,A., Martinez,E.,
               Massey,E., Mawhney,E., McLeod,M.P., Meador,M., Mei,G., Metzker,M.,
               Miner,G., Miner,Z., Mitchell,T., Mohabbat,K., Morgan,M., Morris,S.,
               Moser,M., Neal,D., Newton,J., Mohabbat,K., Morgan,M., Morris,S.,
               Nguyen,N., Nickerson,E., Nwokenko,S., Ogul,M., Okunolu,G.,
               Oragunye,N., Oviedo,R., Pace,A., Payton,B., Peary,J., Perez,L.,
               Peters,L., Pickens,R., Primus,E., Pu,L.L., Qulies,M., Ren,Y.,
               Rives,M., Rojas,A., Rojudoxan,I., Rolfe,M., Ruiz,S., Savery,G.,
               Scherer,S., Scott,G., Shen,H., Shoostitari,N., Sisson,I.,
               Sodergren,E., Sonaike,T., Sparks,A., Stanley,H., Stone,H.,
               Sutton,A., Svatek,A., Tabor,P., Tamerisa,A., Tamerisa,K., Tang,H.,
               Tansey,J., Taylor,C., Taylor,T., Telford,B., Thomas,N., Thomas,S.,
               Umani,K., Vasquez,L., Vera,V., Villalob,D., Vinson,R., Wang,O.,
               Wang,S., Ward-Moore,S., Warren,R., Washington,C., Wallington,S.,
               Williams,G., Williamson,A., Wleczek,R., Woodem,S., Worley,K.,
               Wu,C., Wu,Y., Wu,Y.F., Zhou,J., Zorilla,S., Nelson,D.,
               Weinstock,G. and Gibbs,R.
               Direct Submission
               2 (bases 1 to 98469)
               Worley,K.C.
               Direct Submission
               Submitted (17-FEB-2002) Human Genome Sequencing Center, Department
               of Molecular and Human Genetics, Baylor College of Medicine, One
               Baylor Plaza, Houston, TX 77030, USA
               3 (bases 1 to 98469)
               Worley,K.C.
               Direct Submission
               Submitted (13-JUL-2002) Human Genome Sequencing Center, Department
               of Molecular and Human Genetics, Baylor College of Medicine, One
               Baylor Plaza, Houston, TX 77030, USA
               On Jul 12, 2002 this sequence version replaced gi:20303148.
               ----- Genome Center
               Center: Baylor College of Medicine
               Center code: BCM
               Web site: http://www.hgsc.bcm.tmc.edu/
               Contact: hgsc-help@bcm.tmc.edu

```

```

----- Project Information
Center project name: GOFU
Center clone name: CH230-188N19
----- Summary Statistics
Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 58747 bases at least Q40
Consensus quality: 62864 bases at least Q30
Consensus quality: 66529 bases at least Q20
-----
* NOTE: Estimated insert size may differ from sequence length
* (see http://www.hgsc.bcm.tmc.edu/docs/genbank_draft_data.html).
* NOTE: This is a 'working draft' sequence. It currently
* consists of 51 contigs. The true order of the pieces
* is not known and their order in this sequence record is
* arbitrary. Gaps between the contigs are represented as
* runs of N, but the exact sizes of the gaps are unknown.
* This record will be updated with the finished sequence
* as soon as it is available and the accession number will
* be preserved.
1
1004 1103: contig of 1003 bp in length
1104 2678: contig of 1575 bp in length
2679 2778: gap of unknown length
3852 3951: contig of 1073 bp in length
3952 5019: gap of unknown length
5020 5119: contig of 1068 bp in length
5120 5538: gap of unknown length
5539 6638: gap of unknown length
6639 8369: contig of 1731 bp in length
8370 8470 9978: contig of 1509 bp in length
9979 10078: gap of unknown length
10079 11368: contig of 1290 bp in length
11369 1168: gap of unknown length
1169 13060: contig of 1592 bp in length
13061 13160: gap of unknown length
13161 15022: contig of 1862 bp in length
15023 15122: gap of unknown length
15123 16136: contig of 1014 bp in length
16137 16236: gap of unknown length
16237 17891: contig of 1655 bp in length
17892 17991: gap of unknown length
17992 19434: contig of 1443 bp in length
19435 19534: gap of unknown length
19535 21851: contig of 2317 bp in length
21852 21951: gap of unknown length
21952 23244: contig of 1293 bp in length
23245 23344: gap of unknown length
23345 24821: contig of 1477 bp in length
24822 25927: gap of unknown length
25927 25927: contig of 1006 bp in length
25928 26027: gap of unknown length
26028 27504: contig of 1477 bp in length
27505 27604: gap of unknown length
27605 29283: contig of 1679 bp in length
29284 29383: gap of unknown length
29384 30825: contig of 1442 bp in length
30826 30925: gap of unknown length
30926 32353: contig of 1428 bp in length
32354 32453: gap of unknown length
32454 34101: contig of 1648 bp in length
34102 34201: gap of unknown length
34202 35935: contig of 1734 bp in length
35936 36035: gap of unknown length
36036 37584: contig of 1549 bp in length
37585 37684: gap of unknown length
37685 39417: contig of 1733 bp in length
39418 39517: gap of unknown length
39518 41177: contig of 1660 bp in length
41178 41277: gap of unknown length

```

```

* 41278 43419: contig of 2142 bp in length
* 43420 43519: gap of unknown length
* 43520 4426: contig of 1907 bp in length
* 4426 4526: gap of unknown length
* 4526 47257: contig of 1731 bp in length
* 47257 47358: gap of unknown length
* 47358 48841: contig of 1484 bp in length
* 48841 48942: gap of unknown length
* 48942 50805: contig of 1864 bp in length
* 50805 50905: gap of unknown length
* 50905 50906 50906: gap of unknown length
* 50906 52124: contig of 1219 bp in length
* 52124 52225 52225: gap of unknown length
* 52225 53867: contig of 1643 bp in length
* 53867 53967: gap of unknown length
* 53967 55206: contig of 1239 bp in length
* 55206 55306: gap of unknown length
* 55306 56708: contig of 1402 bp in length
* 56708 56709 56709: gap of unknown length
* 56709 58260: contig of 1452 bp in length
* 58260 58360: gap of unknown length
* 58360 58261 58361 59743: contig of 1383 bp in length
* 59743 59843: gap of unknown length
* 59843 61952: contig of 2109 bp in length
* 61952 62052: gap of unknown length
* 62052 63497: contig of 1445 bp in length
* 63497 63597: gap of unknown length
* 63597 65534: contig of 1937 bp in length
* 65534 65634: gap of unknown length
* 65634 67608: contig of 1974 bp in length
* 67608 67709 67709: gap of unknown length
* 67709 69456: contig of 1748 bp in length
* 69456 69556: gap of unknown length
* 69556 72847: contig of 3291 bp in length
* 72847 72947: gap of unknown length
* 72947 76677: contig of 3730 bp in length
* 76677 76778 76778: gap of unknown length
* 76778 78346: contig of 1569 bp in length
* 78346 78446: gap of unknown length
* 78446 81817: contig of 3371 bp in length
* 81817 81917: gap of unknown length
* 81917 84444: contig of 2527 bp in length
* 84444 84544: gap of unknown length
* 84544 87934: contig of 3390 bp in length
* 87934 88034: gap of unknown length
* 88034 90587: contig of 2553 bp in length
* 90587 90688 90688: gap of unknown length
* 90688 93786: contig of 3099 bp in length
* 93786 93886: gap of unknown length
* 93887 98469: contig of 4583 bp in length.
*
FEATURES
source 1..98469
/organism="Rattus norvegicus"
/db_xref="taxon:10116"
/clone="CH230-188N19"
BASE COUNT 23984 a 22028 c 21322 g 24378 t 6757 others
Query Match 6.1%; Score 22; DB 2; Length 98469;
Best Local Similarity 100.0%; Pred. No. 0.55;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 235 AAAAGGAGAGAAAAGAGAGCA 256
Db 28864 AAAAGGAGAGAAAAGAGAGCA 28865
RESULT 7
AC111364/c 175122 bp DNA linear HTG 13-JUL-2002
LOCUS AC111364
DEFINITION Rattus norvegicus clone CH230-89N15, *** SEQUENCING IN PROGRESS
ACCESSION AC111364
VERSION AC111364.2 GI:21735890
KEYWORDS HTG; HTGS_PHASE1.

```

SOURCE Norway rat.
ORGANISM Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

REFERENCE 1 (bases 1 to 175122)
Muzny,D.M., Adams,C., Adio-Odunola,B., Alj-osman,F.R., Allen,C., Alsdorfs,S.L., Amaratunge,H.C., Are,J.R., Ayele,M., Banks,T., Barbakid,J., Benton,J., Blinage,K., Blankenburg,K., Bonini,D., Bouck,J., Bowler,S., Brileva,M., Brown,E., Brown,M., Bryant,N.P., Buhey,C., Burch,P., Burkett,C., Burrell,K.L., Byrd,N.C., Carrott,T.F., Carter,M., Cavazos,S.R., Chacko,J., Chavez,C., Chen,G., Chen,R., Chen,Z., Chowdhry,I., Christopoulos,D., Cleveland,C.D., Cox,C., Coyne,M.D., Dathorne,S.R., David,R., Davila,M.L., Davis,C., Davy-Carroll,L., Dederich,D.A., Delaney,K.R., Delgado,O., Denn,A.L., Ding,Y., Dinh,H.H., Douthwaite,K.J., Draper,H., Dugan-Rocha,S., Durbin,K.J., Earnhart,C., Edgar,D., Edwards,C.C., Elhaj,C., Escotto,M., Falls,T., Ferraguto,D., Flagg,N., Ford,J., Foster,P., Frantz,P., Gabisi,A., Gao,J., Garcia,A., Garner,T., Garza,N., Gill,R., Gorrell,J.H., Guetara,W., Gunaratne,P., Hale,S., Hamilton,K., Harris,C., Harris,K., Hart,M., Havlak,P., Hawes,A., Hernandez,J., Hernandez,O., Hodgson,A., Hogues,M., Holloway,C., Hollins,B., Homsa,F., Howard,S., Huber,J., Huliyk,S., Hume,J., Jackson,L.E., Jacobson,B., Jia,Y., Johnson,R., Jolivet,S., Joudah,S., Karlsson,E., Kelly,S., Khan,U., King,L., Korvah,J., Kovar,C., Kratochvic,J., Kureshi,A., Landry,N., Leal,B., Lewis,L.C., Lewis,L., Li,J., Li,Z., Lichtarge,O., Lieu,C., Liu,J., Liu,W., Louiseged,H., Lozado,R.J., Lu,X., Lucier,A., Lucier,R., Luna,R., Ma,J., Maheshwari,M., Mapa,P., Martin,R., Martindale,A., Martinez,E., Massey,G., Mawhney,E., McLeod,M.P., Meador,M., Mel,G., Metzger,M., Miner,G., Miner,Z., Mitchell,T., Mohabat,K., Morgan,M., Morris,S., Moser,M., Neal,D., Newton,J., Newton,S., Nguyen,A., Nguyen,N., Nguyen,N., Nickerson,E., Nwokkenwo,S., Oguh,M., Okunonu,G., Ogunuye,N., Oviedo,R., Pace,A., Payton,B., Peery,J., Perez,L., Peters,L., Pickens,R., Primus,E., Pu,L., Quiles,M., Ren,Y., Rives,M., Rojas,A., Rojudoan,I., Rolfe,M., Ruiz,S., Severy,G., Scherer,S., Scott,G., Shen,H., Shoshchani,N., Sisson,I., Sodergren,E., Sonalke,T., Sparks,A., Stanley,H., Stone,H., Sutton,A., Svatek,A., Tabor,P., Tamerisa,A., Tamerisa,K., Thomas,S., Tansley,J., Taylor,C., Taylor,T., Telford,B., Thomas,N., Wang,S., Usman,K., Vasquez,L., Vera,V., Villalón,D., Vinson,R., Wang,Q., Wang,S., Ward-Moore,S., Warren,R., Washington,C., Watlington,S., Williams,G., Williamson,A., Wleczek,R., Wooden,S., Worley,K., Wu,C., Wu,Y., Wu,Y.F., Zhou,J., Zorrilla,S., Nelson,D., Weinstein,G. and Gibbs,R.

TITLE Direct Submission
JOURNAL Unpublished
REFERENCE 2 (bases 1 to 175122)
Worley,K.C.
TITLE Direct Submission
JOURNAL Submitted (19-FEB-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA

REFERENCE 3 (bases 1 to 175122)
Worley,K.C.
TITLE Direct Submission
JOURNAL Submitted (13-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
On Jul 12, 2002 this sequence version replaced g1:18701128.

COMMENT ----- Genome Center
Center: Baylor College of Medicine
Center code: BCM
Web site: <http://www.hgsc.bcm.tmc.edu/>
Contact: hgsc-help@bcm.tmc.edu
----- Project Information
Center project name: GWCN
Center clone name: CH230-89N15
----- Summary Statistics
Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990329

Consensus quality: 111635 bases at least Q40
Consensus quality: 118408 bases at least Q30
Consensus quality: 122874 bases at least Q20

* NOTE: Estimated insert size may differ from sequence length
* (see http://www.hgsc.bcm.tmc.edu/docs/genbank_draft_data.html).
* NOTE: This is a 'working draft' sequence. It currently
* consists of 78 contigs. The true order of the pieces
* is not known and their order in this sequence record is
* arbitrary. Gaps between the contigs are represented as
* runs of N, but the exact sizes of the gaps are unknown.
* This record will be updated with the finished sequence
* as soon as it is available and the accession number will
* be preserved.

1	1188:	contig of 1188 bp in length
1189	1288:	gap of unknown length
1289	2648:	contig of 1360 bp in length
2649	2748:	gap of unknown length
2749	3799:	contig of 1051 bp in length
3800	3899:	gap of unknown length
3900	5297:	contig of 1398 bp in length
5298	5397:	gap of unknown length
5398	6635:	contig of 1238 bp in length
6636	6735:	gap of unknown length
6736	7824:	contig of 1089 bp in length
7825	7924:	gap of unknown length
7925	9398:	contig of 1474 bp in length
9399	9498:	gap of unknown length
9499	10891:	contig of 1393 bp in length
10892	10991:	gap of unknown length
10992	12617:	contig of 1626 bp in length
12618	12717:	gap of unknown length
12718	13920:	contig of 1203 bp in length
13921	14020:	gap of unknown length
14021	15241:	contig of 1221 bp in length
15242	15341:	gap of unknown length
15342	16655:	contig of 1324 bp in length
16656	16765:	gap of unknown length
16766	17923:	contig of 1158 bp in length
17924	18023:	gap of unknown length
18024	19170:	contig of 1147 bp in length
19171	19370:	gap of unknown length
19371	20708:	contig of 1438 bp in length
20709	20808:	gap of unknown length
20809	22397:	contig of 1589 bp in length
22398	22497:	gap of unknown length
22498	24215:	contig of 1718 bp in length
24216	24315:	gap of unknown length
24316	25353:	contig of 1038 bp in length
25354	25453:	gap of unknown length
25454	26837:	contig of 1384 bp in length
26838	26937:	gap of unknown length
26938	28193:	contig of 1256 bp in length
28194	28293:	gap of unknown length
28294	29695:	contig of 1402 bp in length
29696	29795:	gap of unknown length
29796	31816:	contig of 2021 bp in length
31817	31916:	gap of unknown length
31917	33107:	contig of 1191 bp in length
33108	33207:	gap of unknown length
33208	34451:	contig of 1244 bp in length
34452	34551:	gap of unknown length
34552	36746:	contig of 2195 bp in length
36747	36846:	gap of unknown length
36847	38048:	contig of 1202 bp in length
38049	38148:	gap of unknown length
38149	39326:	contig of 1178 bp in length
39327	39426:	gap of unknown length
39427	40692:	contig of 1266 bp in length
40693	40792:	gap of unknown length
40793	42532:	contig of 1740 bp in length
42533	42632:	gap of unknown length
42633	44820:	contig of 2188 bp in length

```

* 44821 44920: gap of unknown length
* 44921 44928: contig of 1508 bp in length
* 46429 46528: gap of unknown length
* 47912 47912: contig of 1384 bp in length
* 47913 48012: gap of unknown length
* 48013 49235: contig of 1223 bp in length
* 49236 49335: gap of unknown length
* 49336 50712: contig of 1377 bp in length
* 50713 50812: gap of unknown length
* 50813 52715: contig of 1903 bp in length
* 52716 52815: gap of unknown length
* 52816 53006: contig of 2191 bp in length
* 53007 53106: gap of unknown length
* 53107 58060: contig of 2954 bp in length
* 58061 58160: gap of unknown length
* 58161 59425: contig of 1265 bp in length
* 59426 59525: gap of unknown length
* 59526 60863: contig of 1338 bp in length
* 60864 60963: gap of unknown length
* 60964 62722: contig of 1759 bp in length
* 62723 62822: gap of unknown length
* 62823 64115: contig of 1293 bp in length
* 64116 64215: gap of unknown length
* 64216 66265: contig of 2050 bp in length
* 66266 66365: gap of unknown length
* 66366 68310: contig of 1945 bp in length
* 68311 68410: gap of unknown length
* 68411 70424: contig of 2014 bp in length
* 70425 70524: gap of unknown length
* 70525 72377: contig of 1853 bp in length
* 72378 72477: gap of unknown length
* 72478 74732: contig of 2255 bp in length
* 74733 74832: gap of unknown length
* 74833 76449: contig of 1617 bp in length
* 76450 76549: gap of unknown length
* 76550 77682: contig of 1133 bp in length
* 77683 77782: gap of unknown length
* 77783 80458: contig of 2676 bp in length
* 80459 80558: gap of unknown length
* 80559 83243: contig of 2685 bp in length
* 83244 83343: gap of unknown length
* 83344 85798: contig of 2455 bp in length
* 85799 85898: gap of unknown length
* 85899 87752: contig of 1854 bp in length
* 87753 87852: gap of unknown length
* 87853 90255: contig of 2403 bp in length
* 90256 90355: gap of unknown length
* 90356 91582: contig of 1227 bp in length

```

Query Match 6.1%; Score 22; DB 2; Length 175122;
 Best Local Similarity 100.0%; Pred. No. 0.52;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 235 AAAAGGAGAGAAAAGAGACCA 256
 Db 89394 AAAAGGAGAGAAAAGAGACCA 89373

RESULT 8
 AC115967
 LOCUS AC115967 221789 bp DNA linear HTG 26-JUN-2002
 DEFINITION Mus musculus clone RP24-72G22, WORKING DRAFT SEQUENCE, 12 ordered
 pieces.
 AC115967.3 GI:21592021
 VERSION HTG: HTGS_PHASE2; HTGS_DRAFT; HTGS_FULLTOP.
 KEYWORDS house mouse.
 SOURCE Mus musculus.
 ORGANISM Mus musculus.
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 Birren, B., Linton, L., Nusbaum, C. and Lander, E.
 REFERENCE
 1 (bases 1 to 221789)
 TITLE
 Mus musculus, clone RP24-72G22

JOURNAL REFERENCE AUTHORS

Unpublished
 2 (bases 1 to 221789)
 Birren, B., Linton, L., Nusbaum, C., Lander, E., Ali, A., Allen, N.,
 Anderson, S., Barna, N., Bastien, V., Bloom, T., Boguslavsky, L.,
 Boukhgalter, B., Brown, A., Camarata, J., Campopiano, A., Chang, J.,
 Chazaro, B., Choepel, Y., Colangelo, M., Collins, S., Collymore, A.,
 Cook, A., Cooke, P., Deatellano, K., Dewar, K., Diaz, J. S., Dodge, S.,
 Faro, S., Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S.,
 Ginde, S., Gord, S., Goyette, M., Graham, L., Grand-Pierre, N.,
 Hagos, B., Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C.,
 Kamal, A., Karatas, A., Kells, C., Lacroque, K., Lamazares, R.,
 Landers, T., Lehoczy, J., Levine, R., Lindblad-Toh, K., Liu, G.,
 Maclean, C., Macdonald, P., Major, J., Margulis, N., Matthews, C.,
 McCarthy, M., McEwan, P., McKernan, K., Meldrum, J., Menus, L.,
 Mihova, T., Mienga, V., Murphy, T., Naylor, J., Nguyen, C., Nicol, R.,
 Norbu, C., Norman, C. H., O'Connor, T., O'Donnell, P., O'Neill, D.,
 Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V.,
 Raymond, C., Retta, R., Rieback, M., Riley, R., Rise, C., Rogov, P.,
 Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupack, R.,
 Seaman, S., Severy, P., Spencer, B., Strange-Thomann, N., Stojanovic, N.,
 Straus, N., Subramanian, A., Talamas, J., Testaye, S., Theodore, J.,
 Topham, K., Travers, M., Travis, N., Trigilio, J., Vassiliev, H.,
 Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W. J., Young, G.,
 Zainoun, J., Zembek, L., Zimmer, A. and Zody, M.
 Direct Submission
 Submitted (22-MAR-2002) Whitehead Institute/MIT Center for Genome
 Research, 320 Charles Street, Cambridge, MA 02141, USA
 3 (bases 1 to 221789)

JOURNAL REFERENCE AUTHORS

Birren, B., Linton, L., Nusbaum, C., Lander, E., Ali, A., Allen, N.,
 Anderson, S., Barna, N., Bastien, V., Bloom, T., Boguslavsky, L.,
 Boukhgalter, B., Brown, A., Camarata, J., Campopiano, A., Chang, J.,
 Chazaro, B., Choepel, Y., Colangelo, M., Collins, S., Collymore, A.,
 Cook, A., Cooke, P., Deatellano, K., Dewar, K., Diaz, J. S., Dodge, S.,
 Faro, S., Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S.,
 Ginde, S., Gord, S., Goyette, M., Graham, L., Grand-Pierre, N.,
 Hagos, B., Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C.,
 Kamal, A., Karatas, A., Kells, C., Lacroque, K., Lamazares, R.,
 Landers, T., Lehoczy, J., Levine, R., Lindblad-Toh, K., Liu, G.,
 Maclean, C., Macdonald, P., Major, J., Margulis, N., Matthews, C.,
 McCarthy, M., McEwan, P., McKernan, K., Meldrum, J., Menus, L.,
 Mihova, T., Mienga, V., Murphy, T., Naylor, J., Nguyen, C., Nicol, R.,
 Norbu, C., Norman, C. H., O'Connor, T., O'Donnell, P., O'Neill, D.,
 Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V.,
 Raymond, C., Retta, R., Rieback, M., Riley, R., Rise, C., Rogov, P.,
 Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupack, R.,
 Seaman, S., Severy, P., Spencer, B., Strange-Thomann, N., Stojanovic, N.,
 Straus, N., Subramanian, A., Talamas, J., Testaye, S., Theodore, J.,
 Topham, K., Travers, M., Travis, N., Trigilio, J., Vassiliev, H.,
 Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W. J., Young, G.,
 Zainoun, J., Zembek, L., Zimmer, A. and Zody, M.
 Direct Submission
 Submitted (26-JUN-2002) Whitehead Institute/MIT Center for Genome
 Research, 320 Charles Street, Cambridge, MA 02141, USA
 On Jun 26, 2002 this sequence version replaced g1:21536113.
 All repeats were identified using RepeatMasker:
 Smit, A.F.A. & Green, P. (1996-1997)
 http://ftp.genome.washington.edu/RM/RepeatMasker.html

 Genome Center
 Center: Whitehead Institute/ MIT Center for Genome Research
 Center code: WIBR
 Web site: http://www-seq.wi.mit.edu
 Contact: sequence_submissions@genome.wi.mit.edu

 Project Information
 Center project name: L24966
 Center clone name: 72.G.22

 Summary Statistics
 Sequencing vector: Plasmid; n/a; 100% of reads
 Chemistry: Dye-terminator Big Dye; 100% of reads
 Assembly program: Phrap; version 0.960731
 Consensus quality: 217259 bases at least Q40
 Consensus quality: 219286 bases at least Q30
 Consensus quality: 220096 bases at least Q20
 Insert size: 226000; agarose-IP

Insert size: 220689; sum-of-ctontigs
Quality coverage: 6.6 in Q20 bases; agarose-fp
Quality coverage: 6.7 in Q20 bases; sum-of-ctontigs

* NOTE: This is a 'working draft' sequence. It currently
* consists of 12 contigs. Gaps between the contigs
* are represented as runs of N. The order of the pieces
* is believed to be correct as given, however the sizes
* of the gaps between them are based on estimates that have
* provided by the submitter.

* This sequence will be replaced
* by the finished sequence as soon as it is available and
* the accession number will be preserved.

1 1134: contig of 1134 bp in length
1135 1234: gap of 100 bp
1235 3567: contig of 2333 bp in length
3568 3667: gap of 100 bp
3668 4915: contig of 1248 bp in length
4916 5015: gap of 100 bp
5016 8383: contig of 3368 bp in length
8384 8483: gap of 100 bp
8484 11058: contig of 2575 bp in length
11059 11158: gap of 100 bp
11159 11577: contig of 4419 bp in length
11578 15677: gap of 100 bp
15678 26269: contig of 10592 bp in length
26270 26369: gap of 100 bp
26370 36680: contig of 10311 bp in length
36681 36780: gap of 100 bp
36781 53578: contig of 16798 bp in length
53579 53678: gap of 100 bp
53679 73051: contig of 19373 bp in length
73052 73151: gap of 100 bp
73152 138372: contig of 65221 bp in length
138373 138472: gap of 100 bp
138473 221789: contig of 83317 bp in length.

FEATURES

Location/Qualifiers

1..221789
/organism="Mus musculus"

/db_xref="taxon:10090"

/clone="RP24-72G22"

/clone.lib="RPCT-24 Male Mouse BAC"

misc_feature

1..1134
/note="assembly_fragment"

misc_feature

1235..3567
/note="assembly_fragment"

misc_feature

3668..4915
/note="assembly_fragment"

misc_feature

5016..8383
/note="assembly_fragment"

misc_feature

8484..11058
/note="assembly_fragment"

misc_feature

11159..11577
/note="assembly_fragment"

misc_feature

15678..26269
/note="assembly_fragment"

misc_feature

26370..36680
/note="assembly_fragment"

misc_feature

36781..53578
/note="assembly_fragment"

misc_feature

53679..73051
/note="assembly_fragment"

misc_feature

73152..138372
/note="assembly_fragment"

misc_feature

138473..221789
/note="assembly_fragment"

misc_feature

BASE COUNT 70378 a 41782 c 41323 g 67204 t 1102 others

ORIGIN

Query Match 6.1%; Score 22; DB 2; Length 221789;
Best Local Similarity 100.0%; Pred. No. 0.51;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 205 CTCCTCCCTACCTTTCATATAG 226
Db 79199 CTCCTCCCTACCTTTCATATAG 79220

RESULT 9
AF222915
LOCUS

DEFINITION 133 bp DNA linear MAM 19-DEC-2000
Sus scrofa costimulatory B-lymphocyte antigen B7-2 (CD86) gene,
exon 5 and partial cds.

ACCESSION AF222915.1 GI:11890419
VERSION
KEYWORDS
SOURCE

ORGANISM Sus scrofa.
Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euteria; Cetartiodactyla; Suidae; Sus.

REFERENCE 1 (bases 1 to 133)
Van Poucke,M., Yerle,M., Tuglie,C., Chardon,P., Van Zeveren,A. and
Peelman,L.J.
AUTHORS

TITLE Integration of porcine chromosome 13 maps
JOURNAL Unpublished
2 (bases 1 to 133)

REFERENCE Van Poucke,M. and Peelman,L.J.
AUTHORS Direct Submission
TITLE Submitted (11-JAN-2000) Department of Animal Nutrition, Genetics,
Breeding and Ethology, University of Ghent, Heidestraat 19,
Merelbeke, O-VL 9820, Belgium

FEATURES
source Location/Qualifiers
1..133
/organism="Sus scrofa"

/db_xref="taxon:9823"
/chromosome="13"
/map="between ADGY5 and SM1876"
/note="Breed: Belgian Landrace"

gene <1..>133
/gene="CD86"

mrna <1..>133
/gene="CD86"

CDS <1..>133
/product="costimulatory B-lymphocyte antigen B7-2"

exon <1..>133
/gene="CD86"

BASE COUNT 47 a 31 c 24 g 31 t ;
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 3.6;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAGAAATCTCAAAATTA 98
Db 71 CATGAGAAATCTCAAAATTA 91

LOCUS BTA291475 924 bp mRNA linear -MAM 14-OCT-2000
DEFINITION Bos taurus partial mRNA for CD86 antigen (CD86 gene).
ACCESSION AJ291475
VERSION AJ291475.1 GI:10803379
KEYWORDS B7-2; CD86 antigen; CD86 gene.
SOURCE
ORGANISM Bos taurus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bos taurus

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovidae; Bovinae; Bos.
REFERENCE 1 (bases 1 to 924)
AUTHORS Brooke G.P., Howard C.J. and Parsons K.R.
TITLE Cloning and distribution of cattle CD86
JOURNAL Unpublished
REFERENCE 2 (bases 1 to 924)
AUTHORS Brooke G.P.
TITLE Direct Submission
JOURNAL Submitted (12-OCT-2000) Brooke G.P., Cellular Immunology, Institute
For Animal Health, Compton, Berks, RG20 7NN, UNITED KINGDOM

FEATURES
Source
Location/Qualifiers
1..924
/organism="Bos taurus"
/db_xref="taxon:9913"
/cell_type="monocyte"
/tissue_type="peripheral blood"
/dev_stage="adult"
/country="United Kingdom"
72..924
/gene="CD86"
72..>924
/gene="CD86"
/function="Immune response"
/codon_start=1
/product="CD86 antigen"
/protein_id="CA013140.1"
/db_xref="GI:10803380"
/translation="MRKCTMGLRNILMGMAFLSVSKVPFGSASLKSHPNETGE
LPCHFPNTOMLSDELIVEMODNKLVLKFGQKPNVNPVKYIGRTSPQDSMTL
RLHNVQIKDYGSGCFIHRRSQGLVSIHMSDGLIVANFSQPEIRLANTQEKSN
ILNCSIOGYPPEORMYVSLNTNSSSTIDAVMKCSNITELVYSIVSFPIPE
TNTVFCALGLEPTEKIIISQPNIDAKSPSPVPDHLIWLIALLVTVVSGWELT
LKKKKKRL"

BASE COUNT 295 a 226 c 175 g 228 t
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 924;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAAGTTACCCGAACT 21
DB 573 ATACAAAGTTACCCGAACT 593

RESULT 11
LOCUS PIGCD86G 994 bp mRNA linear MAM 17-JUN-1997
DEFINITION Sus scrofa CD86 mRNA, complete cds.
ACCESSION U76099.1 GI:2198558
VERSION 1
KEYWORDS T cell costimulation.
SOURCE Sus scrofa.
ORGANISM Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
REFERENCE 1 (bases 1 to 994)
AUTHORS Maher S.E., Karmann K., Min W., Hughes C.C., Pober J.S. and
Botchwell A.L.
TITLE Porcine endothelial CD86 is a major costimulator of xenogeneic
human T cells: cloning, sequencing, and functional expression in
human endothelial cells
JOURNAL J. Immunol. 157 (9), 3838-3844 (1996)
MEDLINE 97047772
PUBMED 8892613
COMMENT GSDB:S:74002
FEATURES
Source
Location/Qualifiers
1..994
/organism="Sus scrofa"
/db_xref="taxon:9823"
/cell_line="PEC-A"
/cell_type="endothelial"

/clone_lib="3"
/dev_stage="adult"
1..994
/gene="CD86"
1..978
/gene="CD86"
/standard_name="B7-2"
/note="putative"
/codon_start=1
/protein_id="AAB61307.1"
/db_xref="GI:2198559"
/translation="MGLSNILFVWILLSGAASIKSOAVFNETGFLPCHFPNTOMLS
DELIVEMODDNLVLYELRGQKPNVNPVKYIGRTSPQDSTMTLRLHNVQIKDYGSG
CFIHRSGPHGLVPIHMSDGLVLANFSQPEIRLANTQEKSNILNCSIOGYPPEORM
YVSLNTNSSSTIDAVMKCSNITELVYSIVSFPIPEKTLIFSLPCNIDAKSPVPD
HLIWLIALLVTVVCGWVSFVTLRRKKQGPS
NEGETIKMRKASEQTKNAEHERSDAACDVNLIKTSADNSTDF"
979..994
/gene="CD86"
/note="putative"
994
/gene="CD86"
/evidence="experimental"
3' UTR
polyA-site
BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN

Query Match 5.8%; Score 21; DB 4; Length 994;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAAGAATCTCAAAATAA 98
DB 537 CATGAAGAATCTCAAAATAA 557

RESULT 12
LOCUS AX027016 994 bp DNA linear PAT 16-SEP-2000
DEFINITION Sequence 13 from Patent W00037102.
ACCESSION AX027016
VERSION AX027016.1 GI:10188045
KEYWORDS
SOURCE Pig.
ORGANISM Sus scrofa
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
REFERENCE 1 (bases 1 to 994)
AUTHORS Rogers N.J., Dorling A. and Lechler R.I.
TITLE Immunosuppression
JOURNAL ROGERS NITOHOLA JANE (GB) ; DORLING ANTHONY (GB) ; ML LAB PLC (GB) ;
LECHLER ROBERT IAN (GB)
FEATURES
Source
Location/Qualifiers
1..994
/organism="Sus scrofa"
/db_xref="taxon:9823"
BASE COUNT 302 a 241 c 202 g 249 t
ORIGIN

Query Match 5.8%; Score 21; DB 6; Length 994;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 78 CATGAAGAATCTCAAAATAA 98
DB 537 CATGAAGAATCTCAAAATAA 557

RESULT 13
LOCUS AC099866 53785 bp DNA linear HTG 22-NOV-2001
DEFINITION Mus musculus clone Rp23-7M22, LOW-PASS SEQUENCE SAMPLING.
ACCESSION AC099866

VERSION AC099866.1 GI:17047232
 KEYWORDS HTG: HTGS_PHASE0.
 SOURCE Mus musculus.
 ORGANISM Mus musculus
 Mammalia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Eukaryota; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 1 (bases 1 to 53785)
 Birren, B., Linton, L., Nusbaum, C. and Lander, E.
 Mus musculus, clone RP23-7M22
 Unpublished
 2 (bases 1 to 53785)
 Birren, B., Linton, L., Nusbaum, C., Lander, E., All, A., Allen, N.,
 Anderson, S., Barre, N., Bastien, V., Boguslavsky, L., Boukhalter, B.,
 Brown, A., Camarata, J., Campoliano, A., Chang, J., Chazaro, B.,
 Chospel, Y., Collangelo, M., Collins, S., Collymore, A., Cook, A.,
 Cooke, P., Deatellano, K., Dewar, K., Diaz, J.S., Dodge, S., Fair, S.,
 Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S.,
 Ginde, S., Gord, S., Coyette, M., Graham, L., Grand-Pierre, N.,
 Hagos, B., Heatford, A., Horton, L., Hulme, W., Iliev, I., Johnson, R.,
 Jones, C., Kamat, A., Karatas, A., Kells, C., LaRocque, K.,
 Lamezates, R., Landers, T., Lenocky, J., Levine, R., Liu, G.,
 Maclean, C., MacDonald, P., Major, J., Marquis, N., Matthews, C.,
 McCarthy, M., McEwan, P., McKernan, R., McPheeters, R., Meldrum, J.,
 Menus, L., Mihova, T., Mienna, V., Murphy, T., Naylor, J., Nguyen, C.,
 Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Neill, D.,
 Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V.,
 Raymond, C., Retta, R., Rieback, M., Riley, R., Rise, C., Rogov, P.,
 Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schipbach, R.,
 Seaman, S., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N.,
 Strauss, N., Subramanian, A., Talamas, J., Testaye, S., Theodore, J.,
 Topham, K., Travers, M., Travis, N., Triggillo, J., Vassiliev, H.,
 Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W.J., Young, G.,
 Zainoun, J., Zembek, L., Zimmer, A. and Zody, M.
 Direct Submission
 Submitted (22-NOV-2001) Whitehead Institute/MIT Center for Genome
 Research, 320 Charles Street, Cambridge, MA 02141, USA
 All repeats were identified using RepeatMasker:
 Smit, A.F.A. & Green, P. (1996-1997)
 http://ftp.genome.washington.edu/RM/RepeatMasker.html
 ----- Genome Center
 Center: Whitehead Institute/ MIT Center for Genome Research
 Center code: WIBR
 Web site: http://www.seq.wi.mit.edu
 Contact: sequence_submissions@genome.wi.mit.edu
 ----- Project Information
 Center project name: I13416
 Center clone name: 7_M_22

 * NOTE: This record contains 65 individual
 * sequencing reads that have not been assembled into
 * contigs. Runs of N are used to separate the reads
 * and the order in which they appear is completely
 * arbitrary. Low-pass sequence sampling is useful for
 * identifying clones that may be gene-rich and allows
 * overlap relationships among clones to be deduced.
 * However, it should not be assumed that this clone
 * will be sequenced to completion. In the event that
 * the record is updated, the accession number will
 * be preserved.
 * 1
 * 702 801: gap of 100 bp in length
 * 802 1542: contig of 741 bp in length
 * 1543 1642: gap of 100 bp
 * 1643 2386: contig of 744 bp in length
 * 2387 2486: gap of 100 bp
 * 2487 3171: contig of 685 bp in length
 * 3172 3271: gap of 100 bp
 * 3272 4001: contig of 730 bp in length
 * 4002 4101: gap of 100 bp
 * 4102 4845: contig of 744 bp in length
 * 4846 4945: gap of 100 bp
 * 4946 5673: contig of 728 bp in length
 * 5674 5773: gap of 100 bp

* 5774 6510: contig of 737 bp in length
 * 6511 6610: gap of 100 bp
 * 6611 7337: contig of 727 bp in length
 * 7338 7437: gap of 100 bp
 * 7438 8185: contig of 748 bp in length
 * 8186 8285: gap of 100 bp
 * 8286 9018: contig of 733 bp in length
 * 9019 9118: gap of 100 bp
 * 9119 9858: contig of 740 bp in length
 * 9859 9958: gap of 100 bp
 * 9959 10695: contig of 737 bp in length
 * 10696 10795: gap of 100 bp
 * 10796 11518: contig of 723 bp in length
 * 11519 11618: gap of 100 bp
 * 11619 12335: contig of 717 bp in length
 * 12336 12435: gap of 100 bp
 * 12436 13170: contig of 735 bp in length
 * 13171 13270: gap of 100 bp
 * 13271 13993: contig of 723 bp in length
 * 13994 14093: gap of 100 bp
 * 14094 14826: contig of 733 bp in length
 * 14827 14926: gap of 100 bp
 * 14927 15662: contig of 736 bp in length
 * 15663 15762: gap of 100 bp
 * 15763 16427: contig of 665 bp in length
 * 16428 16527: gap of 100 bp
 * 16528 17261: contig of 734 bp in length
 * 17262 17361: gap of 100 bp
 * 17362 18087: contig of 726 bp in length
 * 18088 18187: gap of 100 bp
 * 18188 18925: contig of 738 bp in length
 * 18926 19025: gap of 100 bp
 * 19026 19758: contig of 733 bp in length
 * 19759 19858: gap of 100 bp
 * 19859 20587: contig of 729 bp in length
 * 20588 20687: gap of 100 bp
 * 20688 21404: contig of 717 bp in length
 * 21405 21504: gap of 100 bp
 * 21505 22257: contig of 753 bp in length
 * 22258 22357: gap of 100 bp
 * 22358 23073: contig of 716 bp in length
 * 23074 23173: gap of 100 bp
 * 23174 23915: contig of 742 bp in length
 * 23916 24015: gap of 100 bp
 * 24016 24755: contig of 740 bp in length
 * 24756 24855: gap of 100 bp
 * 24856 25593: contig of 738 bp in length
 * 25594 25693: gap of 100 bp
 * 25694 26397: contig of 704 bp in length
 * 26398 26497: gap of 100 bp
 * 26498 27229: contig of 732 bp in length
 * 27230 27329: gap of 100 bp
 * 27330 28072: contig of 743 bp in length
 * 28073 28172: gap of 100 bp
 * 28173 28890: contig of 718 bp in length
 * 28891 28990: gap of 100 bp
 * 28991 29708: contig of 718 bp in length
 * 29709 29808: gap of 100 bp
 * 29809 30532: contig of 724 bp in length
 * 30533 30632: gap of 100 bp
 * 30633 31385: contig of 753 bp in length
 * 31386 31485: gap of 100 bp
 * 31486 32223: contig of 738 bp in length
 * 32224 32323: gap of 100 bp
 * 32324 33065: contig of 742 bp in length
 * 33066 33165: gap of 100 bp
 * 33166 33888: contig of 723 bp in length
 * 33889 33988: gap of 100 bp
 * 33989 34713: contig of 725 bp in length
 * 34714 34813: gap of 100 bp
 * 34814 35550: contig of 737 bp in length
 * 35551 35650: gap of 100 bp
 * 35651 36377: contig of 727 bp in length

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:39:04 ; Search time 98.9171 Seconds
(without alignments)
8173.182 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359

Sequence: 1 ataccaggtaccagaacc.....ggcgacaagaactacacaca 359

Scoring table:

OLIGO.NUC
Gapop 60.0 , Gapext 60.0

Searched: 2185239 seqs, 112599159 residues

Word size : 0

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

N.Geneseq_101002:*

1: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT.*
2: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT.*
3: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT.*
4: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1983.DAT.*
5: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT.*
6: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1985.DAT.*
7: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1986.DAT.*
8: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1987.DAT.*
9: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1988.DAT.*
10: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1989.DAT.*
11: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1990.DAT.*
12: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1991.DAT.*
13: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1992.DAT.*
14: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1993.DAT.*
15: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1994.DAT.*
16: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1995.DAT.*
17: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1996.DAT.*
18: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1997.DAT.*
19: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1998.DAT.*
20: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1999.DAT.*
21: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT.*
22: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT.*
23: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT.*
24: /SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	359	100.0	359	20	AAZ27935
2	359	100.0	359	20	AAZ27936
3	227	63.2	509	20	AAZ27933
4	227	63.2	509	20	AAZ27934
5	227	63.2	996	20	AAZ27931
6	227	63.2	996	20	AAZ27932
7	227	63.2	1080	21	AAZ34838
8	227	63.2	1080	21	AAZ34785
9	227	63.2	1080	24	AAZ46840

10	227	63.2	1080	24	ABK48230
11	227	63.2	2830	20	AAZ27929
12	227	63.2	2830	20	AAZ27930
13	42	11.7	840	20	AAZ27923
14	42	11.7	840	20	AAZ27924
15	42	11.7	987	20	AAZ27915
16	42	11.7	987	20	AAZ27916
17	42	11.7	1795	20	AAZ27921
18	42	11.7	1795	20	AAZ27922
19	42	11.7	1897	20	AAZ27913
20	42	11.7	1897	20	AAZ27914
21	21	5.8	1050	21	AAA49661
22	20	5.6	20	20	AAZ27949
23	20	5.6	20	20	AAZ27950
24	24	5.3	2463	22	AAH42341
25	19	5.3	5819	23	ABL05600
26	18	5.0	21	24	ABK14368
27	18	5.0	33	20	AAZ27957
28	18	5.0	98	22	AAE83551
29	18	5.0	210	16	AAT01038
30	18	5.0	306	18	AAT49198
31	18	5.0	306	21	AAC84083
32	18	5.0	405	22	AAE65352
33	18	5.0	470	24	ABL38441
34	18	5.0	738	20	AAV80293
35	18	5.0	738	22	AAE89731
36	18	5.0	831	19	AAV03230
37	18	5.0	837	15	AAO74396
38	18	5.0	972	20	AAV83208
39	18	5.0	972	24	AAD25510
40	18	5.0	1120	16	AAO81351
41	18	5.0	1120	18	AAT49181
42	18	5.0	1120	20	AAV55784
43	18	5.0	1120	21	AAE84049
44	18	5.0	1120	24	AAZ27968
45	18	5.0	1284	23	ABL11655
46	18	5.0	1424	21	AAZ29321
47	18	5.0	1424	24	ABR84193
48	18	5.0	1424	24	ABL63096
49	18	5.0	1424	24	ABL64678
50	18	5.0	1428	16	AAO85873
51	18	5.0	1502	20	AAZ32222
52	18	5.0	1638	21	AAC39109
53	18	5.0	1840	21	AAC44659
54	18	5.0	1857	21	AAC45219
55	18	5.0	2205	22	AAH72616
56	18	5.0	2876	23	ABL11666
57	18	5.0	3284	23	ABL11654
58	18	5.0	3722	20	AAV84180
59	18	5.0	5643	24	ABR93133
60	18	5.0	151826	21	AAE22291
61	17	4.7	18	17	AAE67104
62	17	4.7	184	22	ABA47226
63	17	4.7	184	22	ABA65111
64	17	4.7	184	22	ABA32214
65	17	4.7	184	22	AAK39270
66	17	4.7	184	22	AAI20082
67	17	4.7	184	22	AAI45281
68	17	4.7	184	22	AAI05788
69	17	4.7	184	22	AAI05788
70	17	4.7	184	24	ABSI3356
71	17	4.7	184	22	AAH70946
72	17	4.7	354	22	ABA42072
73	17	4.7	354	22	ABA52494
74	17	4.7	354	22	ABA22284
75	17	4.7	354	22	AAK62211
76	17	4.7	354	22	AAI10843
77	17	4.7	354	22	AAI32102
78	17	4.7	354	22	AAI00767
79	17	4.7	429	23	ABSO0798
80	17	4.7	481	24	ABK79123
81	17	4.7	583	22	AAK12063
82	17	4.7	583	22	AAK37798

CDNA encoding feli
Feline B7-2 protei
Feline B7-2 gene c
Canine B7-2s prote
Complementary stra
Canine B7-2 protei
Complementary stra
Canine B7-2s prote
Canine B7-2 gene
Canine B7-2 gene c
Pig costimulatory
Feline B7-2 gene s
Nucleotide sequenc
Drosophila melanog
Human B7-2 antisen
Feline B7-2 gene s
B. gymnorhiza sal
Human B7-2 exon 5.
Human B7-2 lymphoc
Human B7-2 constan
Novel human polynu
Human colon tumour
Human B7-2 extrace
Nucleotide sequenc
DNA encoding CD66
Isoform Ig11 of th
B7-2 CDNA. Homo s
Human co-stimulato
Human B lymphocyte
Human B lymphocyte
Human B7-2 antigen
Human B7-2 lymphoc
Human B7-2 CDNA.
Drosophila melanog
Human B7-2 CDNA.
Human CDNA differe
Breast cancer rela
Stomach cancer rel
B70 type B antigen
A. thaliana EL6 DN
Arabidopsis thalia
Arabidopsis thalia
Arabidopsis thalia
Human cervical can
Drosophila melanog
Drosophila melanog
Arabidopsis very I
Human prostate spe
BAC containing rep
Human B7-2 hairpin
Human breast cell
Human foetal liver
Human foetal liver
Probe #10680 for g
Human bone marrow
Probe #10015 for g
Probe #13967 used
Probe #5779 used t
Human genome-deriv
Human cervical can
Human breast cell
Human foetal liver
Human foetal liver
Probe #750 for gen
Human bone marrow
Probe #776 for gen
Probe #788 used to
Probe #758 used to
Human genome-deriv
Drosophila melanog
Bacillus clausii g
Human brain expres
Human bone marrow

83	17	4.7	583	22	AA118553	Probe #8486 for ge
84	17	4.7	583	24	ABSI1789	Human genome-deriv
85	17	4.7	1125	22	AAH29566	Drosophila melanog
86	17	4.7	1228	23	ABL08761	Drosophila melanog
87	17	4.7	1273	21	AAFL14181	Aspergillus oryzae
88	17	4.7	1788	19	AAV33887	H. tuberculosis cytol.
89	17	4.7	1811	22	AAH72700	Human cervical can
90	17	4.7	1811	23	ABV22582	Human prostate exp
91	17	4.7	1811	23	ABV22682	Human prostate exp
92	17	4.7	1966	21	AAC95570	Human secreted pro
93	17	4.7	1975	22	AAK71195	Human immune/haema
94	17	4.7	2024	24	ABO54608	Human ovarian anti
95	17	4.7	2429	23	ABL23716	Drosophila melanog
96	17	4.7	3228	23	ABL08760	Drosophila melanog
97	17	4.7	3268	23	ABL08696	Drosophila melanog
98	17	4.7	3504	23	ABL08570	Drosophila melanog
99	17	4.7	3581	23	ABL10966	Drosophila melanog
100	17	4.7	3761	20	AAK09013	Murine axin gene.

ALIGNMENTS

RESULT 1					
AA227935	standard; DNA; 359 BP.				
ID	AA227935				
AC	AA227935;				
XX	20-DEC-1999	(first entry)			
DT	20-DEC-1999	(first entry)			
DE	Feline B7-2 protein (smaller fragment) encoding DNA.				
XX	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;				
KW	allergic reaction; infectious disease; tumor development; feline;				
KW	graft rejection; inflammation; arthritis; atopic dermatitis; ss.				
XX	Felis catus.				
OS	Felis catus.				
XX	MO9947558-A2.				
PN	23-SEP-1999.				
PD	23-SEP-1999.				
XX	19-MAR-1999;	99WO-US06187.			
PE	19-MAR-1999;	98US-0078765.			
XX	19-MAR-1998;	98US-0078765.			
PR	17-APR-1998;	98US-0062597.			
PR	17-APR-1998;	98US-0062597.			
XX	(HESK-) HESKA CORP.				
PA	(HESK-) HESKA CORP.				
XX	Sim G, Yang S, Sellins KS;				
PI	Sim G, Yang S, Sellins KS;				
XX	WPI; 1999-571822/48.				
DR	P-PSDB; AAY41081.				
DR	P-PSDB; AAY41081.				
XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for				
PT	treating, e.g. autoimmune and atopic diseases				
PT	treating, e.g. autoimmune and atopic diseases				
XX	Claim 1; Page 127-128; 148pp; English.				
PS	Claim 1; Page 127-128; 148pp; English.				
XX	The invention provides B7 and CTLA4 (T cell costimulatory proteins)				
CC	encoding nucleic acid molecules from dogs and cats. The proteins can be				
CC	expressed by standard recombinant methodology. The nucleic acid molecules				
CC	and the encoded proteins can be used for preventing or treating diseases,				
CC	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor				
CC	development, graft rejection, inflammation, arthritis and atopic diseases				
CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,				
CC	cats, cattle, sheep or pets. The products can also be used for detection,				
CC	diagnosis and drug screening.				
XX	Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;				
SQ	Sequence 359 BP; 128 A; 79 C; 69 G; 83 T; 0 other;				
Query Match	100.0%; Score 359; DB 20; Length 359;				

Best Local Similarity 100.0%; Pred. No. 4,1e-173;
Matches 359; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ATACAGGTTACCCAGACCTAAGAGATGATTTTACGTAACCTAGAAATTAACCT	60
Db	1	ATACAGGTTACCCAGACCTAAGAGATGATTTTACGTAACCTAGAAATTAACCT	60
QY	61	ACTAAGTATGATCTGATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT	120
Db	61	ACTAAGTATGATCTGATGAGAAATCTCAAAATATGTGACAGAACTGTACAACTT	120
QY	121	TCTATACGCTTTCCTTTTGTAGTCCCTGAAGACACAAATGTAGGCTCTTTTGTCCCTG	180
Db	121	TCTATACGCTTTCCTTTTGTAGTCCCTGAAGACACAAATGTAGGCTCTTTTGTCCCTG	180
QY	181	AACTGGAGACACTGGAGATGCTGCTCCCTCACTTCAATATAGAAACATCAAAAG	240
Db	181	AACTGGAGACACTGGAGATGCTGCTCCCTCACTTCAATATAGAAACATCAAAAG	240
QY	241	GAGAGAAAGAGAGCAACAGACCAAGAGTACATACCTACCTGAGATCT	300
Db	241	GAGAGAAAGAGAGCAACAGACCAAGAGTACATACCTACCTGAGATCT	300
QY	301	GATGAGCCCACTGTATTAACATTTTGAGACAGCCTCAGGCGACAAAGTACTACACA	359
Db	301	GATGAGCCCACTGTATTAACATTTTGAGACAGCCTCAGGCGACAAAGTACTACACA	359

RESULT 2					
AA227936/C	standard; DNA; 359 BP.				
ID	AA227936				
AC	AA227936;				
XX	20-DEC-1999	(first entry)			
DE	Feline B7-2 gene (smaller fragment) complementary DNA sequence.				
XX	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;				
KW	allergic reaction; infectious disease; tumor development; feline;				
KW	graft rejection; inflammation; arthritis; atopic dermatitis; ss.				
XX	Felis catus.				
OS	Felis catus.				
XX	MO9947558-A2.				
PN	23-SEP-1999.				
PD	23-SEP-1999.				
XX	19-MAR-1999;	99WO-US06187.			
PE	19-MAR-1999;	98US-0078765.			
XX	19-MAR-1998;	98US-0078765.			
PR	17-APR-1998;	98US-0062597.			
PR	17-APR-1998;	98US-0062597.			
XX	(HESK-) HESKA CORP.				
PA	(HESK-) HESKA CORP.				
XX	Sim G, Yang S, Sellins KS;				
PI	Sim G, Yang S, Sellins KS;				
XX	WPI; 1999-571822/48.				
DR	P-PSDB; AAY41081.				
DR	P-PSDB; AAY41081.				
XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for				
PT	treating, e.g. autoimmune and atopic diseases				
PT	treating, e.g. autoimmune and atopic diseases				
XX	Claim 1; Page 129; 148pp; English.				
PS	Claim 1; Page 129; 148pp; English.				
XX	The invention provides B7 and CTLA4 (T cell costimulatory proteins)				
CC	encoding nucleic acid molecules from dogs and cats. The proteins can be				
CC	expressed by standard recombinant methodology. The nucleic acid molecules				
CC	and the encoded proteins can be used for preventing or treating diseases,				
CC	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor				
CC	development, graft rejection, inflammation, arthritis and atopic diseases				
CC	such as atopic dermatitis. They can be used in mammals such humans, dogs,				
CC	cats, cattle, sheep or pets. The products can also be used for detection,				
CC	diagnosis and drug screening.				

XX Sequence 359 BP; 83 A; 69 C; 79 G; 128 T; 0 other;

Query Match 100.0%; Score 359; DB 20; Length 359;

Best Local Similarity 100.0%; Pred. No. 4,1e-173; Mismatches 0; Indels 0; Gaps 0;

Matches 359; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTAAACACTGAGAAATCAACT 60
 |||||||
 Db 359 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTAAACACTGAGAAATCAACT 300
 QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAATATGTCAGACGAACTGTACACGTT 120
 |||||||
 Db 299 ACTAAGTATGATCTGTCATGAGAAATCTCAAATATGTCAGACGAACTGTACACGTT 240
 QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 |||||||
 Db 239 TCTATCAGCTTGCTTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATATGAAACATCAAAAGG 240
 |||||||
 Db 179 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATATGAAACATCAAAAGG 120
 QY 241 GAGAGAAAAGAGACAAACAGACCAAGAGATACCTACACGCTTACCTGAGATCT 300
 |||||||
 Db 119 GAGAGAAAAGAGACAAACAGACCAAGAGATACCTACACGCTTACCTGAGATCT 60
 QY 301 GATGAGCCCGATGATTTTACATTTTGAAGACAGCCTCGAGGAGCAAAAGTACTACACA 359
 |||||||
 Db 59 GATGAGCCCGATGATTTTACATTTTGAAGACAGCCTCGAGGAGCAAAAGTACTACACA 1

RESULT 3

AAZ27933
 ID AAZ27933 standard; DNA; 509 BP.

AC AAZ27933;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein (larger fragment) encoding DNA.

B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; feline;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41080.

PS Claim 1; Page 125-126; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 509 BP; 170 A; 109 C; 106 G; 124 T; 0 other;

Query Match 63.2%; Score 227; DB 20; Length 509;

Best Local Similarity 100.0%; Pred. No. 9e-106; Mismatches 0; Indels 0; Gaps 0;

Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTAAACACTGAGAAATCAACT 60
 |||||||
 Db 1 ATACAGGTTACCCAGAACCTAAGAGATGATTTTTCAGCTAAACACTGAGAAATCAACT 60
 QY 61 ACTAGTATGATCTGTCATGAGAAATCTCAAATATGTCAGACGAACTGTACACGTT 120
 |||||||
 Db 61 ACTAGTATGATCTGTCATGAGAAATCTCAAATATGTCAGACGAACTGTACACGTT 120
 QY 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 |||||||
 Db 121 TCTATCAGCTTGCTTTTTCAGTCCCTGAGACACAAATGTAGAGGCTTTTGTGCCCTG 180
 QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATATGAAACATCAAAAGG 227
 |||||||
 Db 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATATGAAACATCAAAAGG 227

RESULT 4

AAZ27934/C
 ID AAZ27934 standard; DNA; 509 BP.

AC AAZ27934;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 gene (larger fragment) complementary DNA sequence.

B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 allergic reaction; infectious disease; tumor development; feline;
 graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Fells catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Sim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41080.

PS Claim 1; Page 127; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritic and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

XX Sequence 509 BP; 124 A; 106 C; 109 G; 170 T; 0 other;

SO Query Match 63.2%; Score 227; DB 20; Length 509;
Best Local Similarity 100.0%; Pred. No. 9e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGACCTAGAGATGATTTTCAGCTAAACACTGGAATTCACCT 60
DB 509 ATCAAGGTTACCCAGACCTAGAGATGATTTTCAGCTAAACACTGGAATTCACCT 450
QY 61 ACTAAGTATGATGATGCTGATGAGAAATCTCAAAATATGAGACAGACTGTACAACGTT 120
DB 449 ACTAAGTATGATGATGCTGATGAGAAATCTCAAAATATGAGACAGACTGTACAACGTT 390
QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGACACACATGTGAGCGTCTTTTGTGCCCTG 180
DB 389 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGACACACATGTGAGCGTCTTTTGTGCCCTG 330
QY 181 AAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 227
DB 329 AAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 283

RESULT 5
AA227931

ID AA227931 standard; DNA: 996 BP.

AC AA227931;

DT 20-DEC-1999 (first entry)

DE Feline B7-2 protein coding sequence.

KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Felis catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AAY41079.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 123-124; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

Query Match 63.2%; Score 227; DB 20; Length 996;
Best Local Similarity 100.0%; Pred. No. 9.1e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATCAAGGTTACCCAGACCTAGAGATGATTTTCAGCTAAACACTGGAATTCACCT 60
DB 484 ATCAAGGTTACCCAGACCTAGAGATGATTTTCAGCTAAACACTGGAATTCACCT 543
QY 61 ACTAAGTATGATGATGCTGATGAGAAATCTCAAAATATGAGACAGACTGTACAACGTT 120
DB 544 ACTAAGTATGATGATGCTGATGAGAAATCTCAAAATATGAGACAGACTGTACAACGTT 603
QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGACACACATGTGAGCGTCTTTTGTGCCCTG 180
DB 604 TCTATCAGCTTGGCTTTTTCAGTCCCTGAAGACACACATGTGAGCGTCTTTTGTGCCCTG 663
QY 181 AAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 227
DB 664 AAACCTGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 710

RESULT 6
AA227932/C

ID AA227932 standard; DNA: 996 BP.

AC AA227932;

DT 20-DEC-1999 (first entry)

DE Complementary strand of feline B7-2 coding sequence.

KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;

KW allergic reaction; infectious disease; tumor development; feline;

KM graft rejection; inflammation; arthritis; atopic dermatitis; ss.

OS Felis catus.

PN WO9947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI: 1999-571822/48.

DR P-PSDB; AAY41079.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 124-125; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)

CC encoding nucleic acid molecules from dogs and cats. The proteins can be

CC expressed by standard recombinant methodology. The nucleic acid molecules

CC and the encoded proteins can be used for preventing or treating diseases,

CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor

CC development, graft rejection, inflammation, arthritic and atopic diseases

CC such as atopic dermatitis. They can be used in mammals such humans, dogs,

CC cats, cattle, sheep or pets. The products can also be used for detection,

CC diagnosis and drug screening.

QY 1 ATACAAGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAAATCAACT 60
 |||||||
 Db 513 ATACAAGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAAATCAACT 454
 QY 61 ACTAAGTATGATGATGTCATGAAGAAATCTCAAAATATATGTCAGAACTGTACAAGTT 120
 |||||||
 Db 453 ACTAAGTATGATGATGTCATGAAGAAATCTCAAAATATATGTCAGAACTGTACAAGTT 394
 QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCGAGACACACAAATGTGACCGCTTTTGTGCCCTG 180
 |||||||
 Db 393 TCTATCAGCTTGGCTTTTTCAGTCCCGAGACACACAAATGTGACCGCTTTTGTGCCCTG 334
 QY 181 AAATGGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 227
 |||||||
 Db 333 AAATGGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 287

RESULT 7
 AA234838
 ID AA234838 standard; cDNA; 1080 BP.
 AC AA234838;
 XX
 DT 28-FEB-2000 (first entry)
 XX
 DE Feline CD86 (B7-2) cDNA.
 XX
 KM CD86; B7-2; feline; cat; recombinant virus; vaccine;
 KM immunomodulator; tumour; cancer; therapy; ss.
 XX
 OS Felis domesticus.
 XX
 FH key Location/Qualifiers
 FT CDS 63..1052
 FT /*tag= a
 XX
 PN MO9957295-A1.
 XX
 PD 11-NOV-1999.
 PD
 PF 30-APR-1999; 99WO-US09504.
 PF
 XX
 PR 01-MAY-1998; 98US-0071711.
 PR
 PA (SCHE) SCHERING-PLOUGH LTD.
 PA (SCHE) SCHERING-PLOUGH VETERINARY CORP.
 PA
 PI Winslow BJ, Cochran MD;
 PI
 DR MPI: 2000-062155/05.
 DR P-PSDB; AAY32285.
 DR
 XX
 PT Novel recombinant virus useful as immunomodulators, particularly in
 PT vaccines -
 XX
 PS Disclosure; Fig 3A; 230pp; English.
 PS
 CC This is the nucleotide sequence of cDNA coding for feline CD86
 CC (B7-2). The cDNA was isolated from feline peripheral blood
 CC mononuclear cell cDNA by PCR. Manipulating the expression of CD28
 CC or CTLA-4 (and/or their co-stimulatory ligands CD80 and CD86)
 CC regulates T cell proliferation and cytokine release. The invention
 CC relates to a recombinant virus that contains at least one foreign
 CC nucleic acid, inserted into a nonessential genomic region, that
 CC encodes feline CD28, CD80, CD86 or CTLA-4 protein, or their
 CC immunogenic fragments, and is expressed when the recombinant virus
 CC is introduced into a suitable host. The invention also provides:
 CC a recombinant virus further comprising a foreign nucleic acid
 CC encoding an immunogen derived from a feline pathogen; recombinant
 CC viruses capable of enhancing an immune response to protect against
 CC disease; recombinant viruses expressing antisense sequences,
 CC capable of suppressing an immune response in a feline, e.g. for

CC treatment of autoimmune disease or transplant rejection; and
 CC recombinant viruses expressing DNA encoding CD80 and/or CD86 used
 CC to reduce or eliminate a tumour in cats.
 CC
 SQ Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other;
 Query Match 63.2%; Score 227; DB 21; Length 1080;
 Best Local Similarity 100.0%; Pred. No. 9.1e-106;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAAATCAACT 60
 |||||||
 Db 546 ATACAAGTTACCCAGAACCTAAGAGATGATTTTCAGCTAAACACTGAAATCAACT 605
 QY 61 ACTAAGTATGATGATGTCATGAAGAAATCTCAAAATATATGTCAGAACTGTACAAGTT 120
 |||||||
 Db 606 ACTAAGTATGATGATGTCATGAAGAAATCTCAAAATATATGTCAGAACTGTACAAGTT 665
 QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCGAGACACACAAATGTGACCGCTTTTGTGCCCTG 180
 |||||||
 Db 666 TCTATCAGCTTGGCTTTTTCAGTCCCGAGACACACAAATGTGACCGCTTTTGTGCCCTG 725

QY 181 AAATGGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 227
 |||||||
 Db 726 AAATGGAGACACTGAGATGCTGCTCCCTACCTTTCATATAGA 772

RESULT 8
 AA234785
 ID AA234785 standard; cDNA; 1080 BP.
 AC AA234785;
 XX
 DT 15-FEB-2000 (first entry)
 XX
 DE Cat CD86 (B7-2) cDNA.
 XX
 KM CD86; B7-2; ligand; cat; vaccine; feline immunodeficiency virus;
 KM FIV; feline leukaemia virus; feline infectious peritonitis virus;
 KM feline panleukopenia virus; feline calicivirus; feline reovirus-3;
 KM feline rotavirus; feline coronavirus; feline syncytial virus;
 KM feline sarcoma virus; feline herpesvirus; feline borna disease;
 KM rabies virus; chlamydia; toxoplasmosis gondii; Dirofilaria immitis;
 KM parasite; autoimmune disease; transplant rejection; therapy; ss.
 XX
 OS Felis domesticus.
 XX
 FH key Location/Qualifiers
 FT CDS 63..1055
 FT /*tag= a
 XX
 PN MO9957271-A2.
 XX
 PD 11-NOV-1999.
 PD
 PF 30-APR-1999; 99WO-US09502.
 PF
 XX
 PR 01-MAY-1998; 98US-0071699.
 PR
 PA (TEXA) TEXAS A & M SYSTEM.
 PA
 PI Collison EW, Hash SM, Choi I;
 PI
 DR MPI: 2000-052972/04.
 DR P-PSDB; AAY32278.
 DR
 XX
 PT Novel feline proteins used to produce feline vaccines which prevent
 PT infectious disease or to promote growth in homologous or heterologous
 PT species -
 XX
 PS Claim 6; Fig 3A; 186pp; English.
 PS
 CC This is the nucleotide sequence of cDNA encoding feline CD86

(B7-2) ligand (see AAY32278) . It was obtained following RT-PCR of peripheral blood mononuclear cell mRNA and RACE-PCR. A vector comprising nucleic acid encoding feline CD86 ligand or feline soluble CD80 ligand is designated PST-2#19-2/011298 (ATCC 209821) . The coexpression of CD86 with the costimulatory molecules CD28 (see AAY32279) and a tumour antigen or an antigen from a pathogenic organism has the ability to activate or enhance activation of T-lymphocytes. Coexpression of CD86 with CTLA-4 (see AAY32280) has the ability to regulate activation of T-lymphocytes. The invention provides isolated nucleic acids encoding feline CD86 ligand, feline CD80 (B7-1) ligand, feline CD28 receptor or feline CTLA-4 (CD132) receptor, as well as vectors comprising the nucleic acids, and polypeptides encoded by the nucleic acids. It also provides vaccines comprising the CD80, CD86, CD28 or CTLA-4 polypeptides and further comprising immunogens derived from pathogens, especially feline immunodeficiency virus (FIV), feline leukaemia virus, feline infectious peritonitis virus, feline panleukopenia virus, feline calicivirus, feline reovirus-3, feline rotavirus, feline coronavirus, feline syncytial virus, feline sarcoma virus, feline herpesvirus, feline borna disease virus, rabies virus, chlamydia, Toxoplasmosis gondii, Dirofilaria immitis, or a flea, bacterial pathogen, or parasite (all claimed). Vaccines capable of enhancing an immune response, and vaccines capable of suppressing an immune response (suitable for treating an autoimmune disease or tissue or organ transplant rejection) are claimed. The nucleic acids may be used for gene therapy or antisense therapy protocols.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 63.2%; Score 227; DB 21; Length 1080;
Best Local Similarity 100.0%; Pred. No. 9.1e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTACCCAGAACCTAAGATGATATTTACGCTAAACACTGGAATTCAACT 60
DB 546 ATACAAGGTACCCAGAACCTAAGATGATATTTACGCTAAACACTGGAATTCAACT 605
QY 61 ACTAAGTATGATAGTCTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 120
DB 606 ACTAAGTATGATAGTCTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAACATGTGAGCGCTTTTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAACATGTGAGCGCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 227
DB 726 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 9
AAL46840
ID AAL46840 standard; cDNA; 1080 BP.

AC AAL46840;

DT 08-AUG-2002 (first entry)

DE Feline CD86 coding sequence.

KW Cat; CD28; CD80; CTLA-4; CD86; immunogen; vaccine; viral infection;
KW feline immunodeficiency disease; feline infectious peritonitis;
KW feline leukaemia virus; cancer; degenerative disease; autoimmune disease;
KW virucide; immunomodulator; cytostatic; immunodeficiency; gene; ss.

OS Felis catus.
XX US2002051792-A1.
XX PN 02-MAY-2002.
XX PD 30-APR-1999; 99US-0303040.
XX PF

XX 01-MAY-1998; 98US-083870P.
PR (WINS/) WINSLOW B J.
PA (COCH/) COCHRAN M D.
XX Winslow BJ, Cochran MD;
XX WPI: 2002-415200/44.
DR P-PSDB: AAO17734.

PT New recombinant virus, useful for immunizing felines to prevent or
PT treat feline immunodeficiency virus, comprises foreign nucleic acid
PT encoding feline cytotoxic T lymphocyte accessory molecules CD28, CD80,
PT CD86 or CTLA-4 .
PS Disclosure: Fig 3; 77pp: English.

XX The present invention relates to a recombinant virus comprising at least
CC one foreign nucleic acid encoding a protein selected from feline
CC cytotoxic T lymphocyte accessory molecules CD28, CD80, CD86 or CTLA-4,
CC which is capable of expression when the virus is introduced into an
CC appropriate host. The virus can be administered to the feline in order to
CC elicit or enhance an immune response to prevent or treat feline
CC immunodeficiency disease, feline leukaemia, feline infectious peritonitis,
CC cancers, degenerative and autoimmune diseases and immunodeficiency. The
CC present sequence is the coding sequence of a cytotoxic T lymphocyte
CC accessory molecule described in the exemplification of the invention.

Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:

Query Match 63.2%; Score 227; DB 24; Length 1080;
Best Local Similarity 100.0%; Pred. No. 9.1e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAAGGTACCCAGAACCTAAGATGATATTTACGCTAAACACTGGAATTCAACT 60
DB 546 ATACAAGGTACCCAGAACCTAAGATGATATTTACGCTAAACACTGGAATTCAACT 605
QY 61 ACTAAGTATGATAGTCTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 120
DB 606 ACTAAGTATGATAGTCTCATGAGAAATCTCAAAATATATGTGACAGAACTGTACAACGTT 665
QY 121 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAACATGTGAGCGCTTTTGCCCTG 180
DB 666 TCTATCAGCTTGCCTTTTTCAGTCCCTGAAGCACAACATGTGAGCGCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 227
DB 726 AAACGTGAGACACTGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 10
ABK48230
ID ABK48230 standard; cDNA; 1080 BP.

AC ABK48230;

DT 02-JUL-2002 (first entry)

DE cDNA encoding feline CD86 protein.

KW Cat; vaccine; feline immunodeficiency virus; FIV; immunosuppressant;
KW feline infectious peritonitis; gene; ss; CD80 ligand; CD86 ligand;
KW CD28; receptor; CTLA-4; vaccine; rabies; autoimmune disease;
KW organ transplant; toxoplasmosis gondii; flea; parasite; panleukopenia;
KW feline leukaemia; FeLV; calicivirus; rotavirus; reovirus type 3;
KW coronavirus; herpes; borna disease.

XX Felis sp.
XX OS
XX Key Location/Qualifiers
XX CDS 63..1052
XX FT

FT		/tag= a
XX		/product= "CD86 protein"
FN		
XX	US2002028208-A1.	
PD		
XX	07-MAR-2002.	
PE	30-APR-1999;	99US-0303510.
XX		
PR	01-MAY-1998;	98US-083869P.
XX		
PA	(COLL/) COLLISSON E W.	
PA	(HASH/) HASH S M.	
PT	(CHOL/) CHOI I.	
Pt		
PI	Collisson EW, Hash SM, Choi I;	
XX		
DR	WPI; 2002-315045/35.	
XX	P-PSDB; AAU78121.	
FT		
PT	Polynucleotide encoding polypeptide of CD80 ligand, CD86 ligand, CD28	
PT	receptor or CTLA-4 receptor as vaccine for inducing immune response in	
PT	feline suffering from autoimmune disease or tissue or organ transplant	
PS		
XX	Claim 6; Fig 3A; 73pp; English.	
CC	This invention relates to the DNA and protein sequences encoding a	
CC	soluble CD80 ligand, soluble CD86 ligand, soluble and membrane-bound	
CC	CD28 receptor and soluble or membrane bound CTLA-4 receptor. The	
CC	invention also relates to a vaccine comprising an effective amount of	
CC	these receptor proteins. A vaccine is useful for inducing immunity or	
CC	enhancing an immune response in a cat. The protein sequences of the	
CC	invention are useful for suppressing an immune response in a feline	
CC	suffering from an autoimmune disease or the recipient of a tissue or	
CC	organ transplant. A vector containing the DNA sequences of the	
CC	invention is useful for redirecting an immune response in a feline to an	
CC	immunogen such as rabies virus, chlamydia, toxoplasmosis gondii,	
CC	lela, feline immunodeficiency virus, feline leukaemia (FeLV), feline	
CC	infectious peritonitis virus (FIP), panleukopenia virus, calicivirus,	
CC	revovirus type 3, rotavirus, coronavirus, syncytial virus, herpes virus,	
CC	sarcoma virus, borra disease virus or a parasite. The protein sequences	
CC	may be further utilised to promote growth in homologous or heterologous	
CC	feline species. Enhancement of immunity through the interaction of a	
CC	soluble CD80 or soluble CD86 with CD28 or CTLA-4 or inhibition of an	
CC	immune response through the interaction of feline CD80 or CD86 with	
CC	CTLA-4 takes advantage of the natural process of regulation rather than	
CC	adding foreign substances that could have multiple, even detrimental	
CC	effects on overall or long term health. The present sequence represents	
CC	a cDNA encoding the feline CD86 protein of the invention.	
XX		
SQ	Sequence 1080 BP; 333 A; 233 C; 235 G; 279 T; 0 other:	
	Query Match	63.2%; Score 227; DB 24; Length 1080;
	Best Local Similarity	100.0%; Prid. No. 9.1e-106;
	Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
OY	1 ATACAGGTTACCCGAGAAGACTTAAGAGATGTATTTCACGTAAACAAGTACCACT 60	
Db	546 ATACAGGTTACCCGAGAAGCTTAAGAGATGTATTTCACGTAAACAAGTACCACT 605	
OY	61 ACTAGTGATGATACGTGCATGAAGAAGAAATCTCAAATAATGTACAGAACGTT 120	
Db	606 ACTAGTGATGATACGTGCATGAAGAAGAAATCTCAAATAATGTACAGAACGTT 665	
OY	121 TCTATCAGCTTGCGCTTTTTCAGTCCCTGAAGACACAATGTAGGCGCTTTTGTGCCCTG 180	
Db	666 TCTATCAGCTTGCGCTTTTTCAGTCCCTGAAGACACAATGTAGGCGCTTTTGTGCCCTG 725	
OY	181 AACCTGGAGACACTGGAGATGCTGCTCCCTACCTCTTTAATATAGA 227	
Db	726 AACCTGGAGACACTGGAGATGCTGCTCCCTACCTCTTTAATATAGA 772	

ID	AA227929	standard; DNA; 2830 BP.
XX	AA227929;	
XX	20-DEC-1999	(first entry)
XX	Feline B7-2 protein encoding DNA.	
XX	B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;	
XX	allergic reaction; infectious disease; tumor development; feline;	
XX	graft rejection; inflammation; arthritis; atopic dermatitis; ss.	
XX	Felis catus.	
XX	MO9947558-A2.	
XX	23-SEP-1999.	
XX	19-MAR-1999;	99WO-US06187.
XX	19-MAR-1998;	98US-0078765.
XX	17-APR-1998;	98US-0062597.
XX	(HESK-) HESKA CORP.	
XX	Slm G, Yang S, Sellins KS;	
XX	WPI; 1999-571822/48.	
XX	P-PSDB; AAY41079.	
XX	New isolated B7 and CTLA4 nucleic acids, used to develop products for	
XX	treating, e.g. autoimmune and atopic diseases	
XX	Claim 1; Page 116-119; 148bp; English.	
XX	The invention provides B7 and CTLA4 (T cell costimulatory proteins)	
XX	encoding nucleic acid molecules from dogs and cats. The proteins can be	
XX	expressed by standard recombinant methodology. The nucleic acid molecules	
XX	and the encoded proteins can be used for preventing or treating diseases,	
XX	e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor	
XX	development, graft rejection, inflammation, arthritis and atopic diseases	
XX	such as atopic dermatitis. They can be used in mammals such humans, dogs,	
XX	cats, cattle, sheep or pets. The products can also be used for detection,	
XX	diagnosis and drug screening.	
XX	Sequence 2830 BP; 877 A; 570 C; 586 G; 797 T; 0 other;	
XX	Query Match	63.2%; Score 227; DB: 20; Length 2830;
XX	Best Local Similarity	100.0%; Pred. No. 9.2e-106;
XX	Matches 227; Conservative	0; Mismatches 0; Indels 0; Gaps 0
XX	1 ATACAAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTTAACACTGAGAAATCAACT	60
XX	662 ATACAAGGTTACCCAGAACCTAAGAGATGTAATTTTCAGCTTAACACTGAGAAATCAACT	721
XX	61 ACTAAGTATGATACGTCTCATGGAAGAAATCTCAAAATATATGTGACAGAACTGTACAAAGTT	120
XX	722 ACTAAGTATGATACGTCTCATGGAAGAAATCTCAAAATATATGTGACAGAACTGTACAAAGTT	781
XX	121 TCTATCAGGTTGCGTTTTCAGTCCCTGAAGACACAAATGTGAGCGTCTTTTGTGCCCTG	180
XX	782 TCTATCAGGTTGCGTTTTCAGTCCCTGAAGACACAAATGTGAGCGTCTTTTGTGCCCTG	841
XX	181 AAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA	227
XX	842 AAACCTGAGACACTGAGATGCTGCTCTCCCTACCTTTCAATATAGA	888


```

XX 19-MAR-1998; 98US-0078765.
PR 17-APR-1998; 98US-0062597.
XX
XX (HESK-) HESKA CORP.
PA
XX Sim G, Yang S; Sellins KS;
XX WPI; 1999-571822/48.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 115; 148pp; English.
XX
XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
XX encoding nucleic acid molecules from dogs and cats. The proteins can be
XX expressed by standard recombinant methodology. The nucleic acid molecules
XX and the encoded proteins can be used for preventing or treating diseases,
XX e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
XX development, graft rejection, inflammation, arthritic and atopic diseases
XX such as atopic dermatitis. They can be used in mammals such humans, dogs,
XX cats, cattle, sheep or pets. The products can also be used for detection,
XX diagnosis and drug screening.
XX
XX Sequence 840 BP; 214 A; 167 C; 181 G; 278 T; 0 other;
XX
XX Query Match 11.7%; Score 42; DB 20; Length 840;
XX Best Local Similarity 100.0%; Pred. No. 2.1e-11;
XX Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 60 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 101
XX |||||||||||||||||||||||||||||||||||||||
XX Db 301 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 260
XX
XX RESULT 15
XX AA227915
XX ID AA227915 standard; DNA; 987 BP.
XX
XX AC AA227915;
XX
XX DT 20-DEC-1999 (first entry)
XX
XX DE Canine B7-2 protein coding sequence.
XX
XX KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
XX allergic reaction; infectious disease; tumor development; canine;
XX graft rejection; inflammation; arthritis; atopic dermatitis; ss.
XX
XX OS Canis familiaris.
XX
XX PN WO947558-A2.
XX
XX PD 23-SEP-1999.
XX
XX PE 19-MAR-1999; 99WO-US06187.
XX
XX PR 19-MAR-1998; 98US-0078765.
XX PR 17-APR-1998; 98US-0062597.
XX
XX PA (HESK-) HESKA CORP.
XX
XX PI Sim G, Yang S, Sellins KS;
XX WPI; 1999-571822/48.
XX P-PSDB; AAY41076.
XX
XX New isolated B7 and CTLA4 nucleic acids, used to develop products for
XX treating, e.g. autoimmune and atopic diseases
XX
XX Claim 1; Page 102-103; 148pp; English.
XX

```

```

CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
CC
CC Sequence 987 BP; 315 A; 215 C; 204 G; 253 T; 0 other;
CC
CC Query Match 11.7%; Score 42; DB 20; Length 987;
CC Best Local Similarity 100.0%; Pred. No. 2.2e-11;
CC Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
CC
CC QY 60 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 101
CC |||||||||||||||||||||||||||||||||||||||
CC Db 540 TACTAAGTATGATCTGTCATGAAGAAATCTCAAAATTAATGT 581
CC
CC RESULT 16
CC AA227916/C
CC ID AA227916 standard; DNA; 987 BP.
CC
CC AC AA227916;
CC
CC DT 20-DEC-1999 (first entry)
CC
CC DE Complementary strand of canine B7-2 coding sequence.
CC
CC KW B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
CC allergic reaction; infectious disease; tumor development; canine;
CC graft rejection; inflammation; arthritis; atopic dermatitis; ss.
CC
CC OS Canis familiaris.
CC
CC PN WO947558-A2.
CC
CC PD 23-SEP-1999.
CC
CC PE 19-MAR-1999; 99WO-US06187.
CC
CC PR 19-MAR-1998; 98US-0078765.
CC PR 17-APR-1998; 98US-0062597.
CC
CC PA (HESK-) HESKA CORP.
CC
CC PI Sim G, Yang S, Sellins KS;
CC WPI; 1999-571822/48.
CC
CC PT New isolated B7 and CTLA4 nucleic acids, used to develop products for
CC treating, e.g. autoimmune and atopic diseases
CC
CC PS Claim 1; Page 103-104; 148pp; English.
CC
CC The invention provides B7 and CTLA4 (T cell costimulatory proteins)
CC encoding nucleic acid molecules from dogs and cats. The proteins can be
CC expressed by standard recombinant methodology. The nucleic acid molecules
CC and the encoded proteins can be used for preventing or treating diseases,
CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
CC development, graft rejection, inflammation, arthritic and atopic diseases
CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
CC cats, cattle, sheep or pets. The products can also be used for detection,
CC diagnosis and drug screening.
CC
CC Sequence 987 BP; 253 A; 204 C; 215 G; 315 T; 0 other;
CC
CC Query Match 11.7%; Score 42; DB 20; Length 987;
CC Best Local Similarity 100.0%; Pred. No. 2.2e-11;
CC Matches 42; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
CC

```

QY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 ||||||||||||||||||||||||||||||||||||||||
 DB 448 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 407

RESULT 17
 ID AA227921 standard; DNA: 1795 BP.
 AC AA227921:

DT 20-DEC-1999 (first entry)

DE Canine B7-2S protein encoding DNA.

KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

DR P-PSDB; AAY41078.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 109-111; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 1795 BP; 592 A; 366 C; 347 G; 490 T; 0 other;

Query Match 11.7%; Score 42; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 2.2e-11; Mismatches 0; Gaps 0;

Matches 42; Conservative 0; Indels 0; Indels 0; Gaps 0;

QY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 ||||||||||||||||||||||||||||||||||||||||
 DB 546 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 587

RESULT 18
 ID AA227922 standard; DNA: 1795 BP.
 AC AA227922:

DT 20-DEC-1999 (first entry)

DE Canine B7-2S gene complementary DNA sequence.

KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

PI Slim G, Yang S, Sellins KS;

DR WPI; 1999-571822/48.

PT New isolated B7 and CTLA4 nucleic acids, used to develop products for

PT treating, e.g. autoimmune and atopic diseases

PS Claim 1; Page 112-114; 148pp; English.

XX The invention provides B7 and CTLA4 (T cell costimulatory proteins)
 CC encoding nucleic acid molecules from dogs and cats. The proteins can be
 CC expressed by standard recombinant methodology. The nucleic acid molecules
 CC and the encoded proteins can be used for preventing or treating diseases,
 CC e.g. autoimmune diseases, allergic reactions, infectious diseases, tumor
 CC development, graft rejection, inflammation, arthritis and atopic diseases
 CC such as atopic dermatitis. They can be used in mammals such humans, dogs,
 CC cats, cattle, sheep or pets. The products can also be used for detection,
 CC diagnosis and drug screening.

XX Sequence 1795 BP; 490 A; 347 C; 366 G; 592 T; 0 other;

Query Match 11.7%; Score 42; DB 20; Length 1795;

Best Local Similarity 100.0%; Pred. No. 2.2e-11; Mismatches 0; Gaps 0;

Matches 42; Conservative 0; Indels 0; Indels 0; Gaps 0;

QY 60 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 101
 ||||||||||||||||||||||||||||||||||||||||
 DB 1250 TACTAGTATGATCTGTCATGAGAAATCTCAAAATATATGT 1209

RESULT 19
 ID AA227913 standard; DNA: 1897 BP.
 AC AA227913:

DT 20-DEC-1999 (first entry)

DE Canine B7-2 protein encoding DNA.

KM B7; CTLA4; T cell costimulatory protein; dog; cat; autoimmune disease;
 KM allergic reaction; infectious disease; tumor development; canine;
 KW graft rejection; inflammation; arthritis; atopic dermatitis; ss.

XX Canis familiaris.

XX WO947558-A2.

PD 23-SEP-1999.

PF 19-MAR-1999; 99WO-US06187.

PR 19-MAR-1998; 98US-0078765.

PR 17-APR-1998; 98US-0062597.

PA (HESK-) HESKA CORP.

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 22:04:11 ; Search time 47.2701 Seconds
(without alignments)
8263.957 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359

Sequence: 1 atacaaggtaccagaacc.....ggcgacaaagtactacaca 359

Scoring table:

OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 709820 seqs, 544064369 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1419640

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database :

Published_Applications_NA:*
1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
2: /cgn2_6/ptodata/2/pubpna/PCR_NEW_PUB.seq:*
3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/2/pubpna/PCR_NEW_PUBCOMB.seq:*
7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*
10: /cgn2_6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
12: /cgn2_6/ptodata/2/pubpna/US10_PUBCOMB.seq:*
13: /cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
14: /cgn2_6/ptodata/2/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	227	63.2	1080	10 US-09-303-510-5	Sequence 5, Appl1
2	227	63.2	1080	10 US-09-303-040-5	Sequence 5, Appl1
3	18	5.0	210	9 US-09-962-969-31	Sequence 31, Appl1
4	18	5.0	210	10 US-09-837-867A-31	Sequence 31, Appl1
5	18	5.0	467	9 US-10-046-935-2030	Sequence 2030, Ap
6	18	5.0	467	9 US-09-878-178-2030	Sequence 2030, Ap
7	18	5.0	467	9 US-10-146-502-2030	Sequence 2030, Ap
8	18	5.0	751	9 US-10-105-200A-34	Sequence 4, Appl1
9	18	5.0	831	10 US-09-845-899A-4	Sequence 4, Appl1
10	18	5.0	972	9 US-09-826-025-11	Sequence 11, Appl1
11	18	5.0	1002	9 US-10-105-200A-33	Sequence 33, Appl1
12	18	5.0	1039	10 US-09-880-192-25	Sequence 25, Appl1
13	18	5.0	1056	10 US-09-756-983-17	Sequence 17, Appl1
14	18	5.0	1112	9 US-09-441-411-25	Sequence 25, Appl1
15	18	5.0	1120	8 US-08-592-711-3	Sequence 3, Appl1
16	18	5.0	1120	9 US-09-962-969-22	Sequence 22, Appl1
17	18	5.0	1120	10 US-09-837-867A-22	Sequence 22, Appl1
18	18	5.0	1161	9 US-09-962-969-24	Sequence 24, Appl1
19	18	5.0	1161	10 US-09-837-867A-24	Sequence 24, Appl1

20	18	5.0	1424	9 US-09-954-531-366	Sequence 366, App
21	18	5.0	1424	9 US-09-441-411-21	Sequence 21, Appl1
22	18	5.0	1424	10 US-09-962-9436-556	Sequence 556, App
23	18	5.0	1491	10 US-09-892-325-3	Sequence 3, Appl1
24	18	5.0	1494	9 US-09-938-842A-569	Sequence 569, App
25	18	5.0	1502	10 US-09-883-797-11	Sequence 11, Appl1
26	18	5.0	1807	10 US-09-892-325-2	Sequence 2, Appl1
27	18	5.0	3722	10 US-09-892-325-1	Sequence 1, Appl1
28	17	4.7	184	10 US-09-864-761-17534	Sequence 17534, A
29	17	4.7	354	10 US-09-864-761-17534	Sequence 750, App
30	17	4.7	387	9 US-10-108-605-110	Sequence 110, App
31	17	4.7	449	9 US-09-918-995-14537	Sequence 14537, A
32	17	4.7	481	10 US-09-974-300-6414	Sequence 6414, Ap
33	17	4.7	488	9 US-09-918-995-34571	Sequence 34571, A
34	17	4.7	583	10 US-09-864-761-13635	Sequence 13635, A
35	17	4.7	599	9 US-09-796-692-8993	Sequence 8993, Ap
36	17	4.7	8746	10 US-09-764-860-1022	Sequence 1022, Ap
37	17	4.7	15772	10 US-09-764-903-66	Sequence 66, Appl1
38	17	4.7	24023	9 US-10-094-679-1	Sequence 1, Appl1
39	16	4.5	235	10 US-09-867-701-1050	Sequence 1050, Ap
40	16	4.5	251	10 US-09-878-574-5600	Sequence 5600, Ap
41	16	4.5	265	10 US-09-983-965-3743	Sequence 3743, Ap
42	16	4.5	344	9 US-09-803-719-225	Sequence 225, App
43	16	4.5	370	10 US-09-963-965-2242	Sequence 2242, Ap
44	16	4.5	415	10 US-09-960-352-7603	Sequence 7603, Ap
45	16	4.5	432	9 US-10-092-154-1353	Sequence 1353, Ap
46	16	4.5	450	9 US-10-092-154-179	Sequence 179, App
47	16	4.5	450	9 US-09-918-995-13563	Sequence 13563, A
48	16	4.5	450	10 US-09-918-995-13563	Sequence 13563, A
49	16	4.5	457	9 US-09-918-995-14666	Sequence 14666, A
50	16	4.5	461	10 US-09-864-761-919	Sequence 919, App
51	16	4.5	467	9 US-09-918-995-8207	Sequence 8207, Ap
52	16	4.5	469	10 US-09-864-761-19917	Sequence 19917, A
53	16	4.5	475	10 US-09-879-536-263	Sequence 263, App
54	16	4.5	497	10 US-09-783-590-3151	Sequence 3151, Ap
55	16	4.5	507	9 US-09-796-692-6961	Sequence 6961, Ap
56	16	4.5	528	10 US-10-015-219-317	Sequence 317, App
57	16	4.5	528	10 US-09-777-564-317	Sequence 317, App
58	16	4.5	558	10 US-09-864-761-12572	Sequence 12572, A
59	16	4.5	597	10 US-09-864-761-7148	Sequence 7148, Ap
60	16	4.5	848	9 US-10-079-854-60	Sequence 60, Appl1
61	16	4.5	848	10 US-09-764-878-60	Sequence 60, Appl1
62	16	4.5	947	10 US-09-833-381-1550	Sequence 1550, Ap
63	16	4.5	958	10 US-10-202-193-90	Sequence 90, Appl1
64	16	4.5	1024	9 US-10-033-109-1	Sequence 1, Appl1
65	16	4.5	1037	12 US-09-758-498-2	Sequence 2, Appl1
66	16	4.5	1314	10 US-09-925-300-647	Sequence 647, App
67	16	4.5	1325	9 US-09-925-300-647	Sequence 11, Appl1
68	16	4.5	1415	9 US-09-934-900-11	Sequence 1, Appl1
69	16	4.5	1501	9 US-10-146-835-3	Sequence 3, Appl1
70	16	4.5	1541	9 US-10-146-835-3	Sequence 7, Appl1
71	16	4.5	1895	9 US-10-093-246-7	Sequence 7, Appl1
72	16	4.5	1895	12 US-10-093-045-7	Sequence 7, Appl1
73	16	4.5	2000	9 US-09-938-842A-5187	Sequence 5187, Ap
74	16	4.5	2594	9 US-09-938-842A-5206	Sequence 5206, Ap
75	16	4.5	2719	10 US-09-925-300-276	Sequence 276, App
76	16	4.5	3058	10 US-09-781-100-1	Sequence 1, Appl1
77	16	4.5	3058	9 US-09-981-876-94	Sequence 94, Appl1
78	16	4.5	3058	9 US-09-148-545-94	Sequence 94, Appl1
79	16	4.5	3346	12 US-10-078-929-191	Sequence 191, App
80	16	4.5	3455	10 US-09-826-752-3	Sequence 3, Appl1
81	16	4.5	3860	10 US-09-866-866A-1	Sequence 1, Appl1
82	16	4.5	3860	10 US-09-866-866A-3	Sequence 3, Appl1
83	16	4.5	4254	10 US-09-917-800A-1424	Sequence 1424, Ap
84	16	4.5	4643	9 US-10-072-621-2	Sequence 2, Appl1
85	16	4.5	8294	12 US-10-084-037-2	Sequence 2, Appl1
86	16	4.5	8473	10 US-09-851-682A-2	Sequence 2, Appl1
87	16	4.5	8630	10 US-09-306-417-1	Sequence 1, Appl1
88	16	4.5	8630	10 US-09-306-417-2	Sequence 2, Appl1
89	16	4.5	11617	9 US-09-860-670-265	Sequence 265, App
90	16	4.5	13205	9 US-10-274-971-3	Sequence 3, Appl1
91	16	4.5	24699	10 US-09-764-877-2419	Sequence 2419, Ap
92	16	4.5	32203	9 US-10-091-504-1849	Sequence 1849, Ap

c 93 16 4.5 32203 10 US-09-764-869-1849 Sequence 1849, Ap
c 94 16 4.5 40392 10 US-09-954-456-44 Sequence 44, Appl
c 95 16 4.5 40392 10 US-09-954-456-687 Sequence 687, Appl
c 96 16 4.5 90050 10 US-09-893-238-5 Sequence 5, Appl
c 97 16 4.5 133893 9 US-10-161-510-1 Sequence 1, Appl
c 98 16 4.5 143306 10 US-09-729-920-3 Sequence 3, Appl
c 99 16 4.5 180216 10 US-09-835-232-6 Sequence 6, Appl
c 100 16 4.5 1691139 9 US-10-067-514-1 Sequence 1, Appl

ALIGNMENTS

RESULT 1

US-09-303-510-5
Sequence 5, Application US/09303510A
Patent No. US20020028208A1
GENERAL INFORMATION:

APPLICANT: Collinson, Ellen W.
APPLICANT: Hash, Stephen M.

APPLICANT: Choi, InSoo

TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, and Feline
CTLA-4 Nucleic Acid and Polypeptides

FILE REFERENCE: 54954

CURRENT APPLICATION NUMBER: US/09/303,510A

EARLIER FILING DATE: 1999-04-30

EARLIER APPLICATION NUMBER: 60/083,869

NUMBER OF SEQ ID NOS: 83

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 5

LENGTH: 1080

TYPE: DNA

ORGANISM: Feline

US-09-303-510-5

Query Match 63.2%; Score 227; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.7e-118;

Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGATTCAACT 60
|||||
Db 546 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGATTCAACT 605
QY 61 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGTACACGTT 120
|||||
Db 606 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGTACACGTT 665
QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCAGACAAATGTGAGCGTCTTTTGCCCTG 180
|||||
Db 666 TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCAGACAAATGTGAGCGTCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGA 227
|||||
Db 726 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 2

US-09-303-040-5

Sequence 5, Application US/09303040

Patent No. US20020051792A1

GENERAL INFORMATION:

APPLICANT: Winslow, Barbara J.

APPLICANT: Cochran, Mark D.

TITLE OF INVENTION: Recombinant Virus Expressing Foreign DNA Encoding
TITLE OF INVENTION: Feline CD80, Feline CD86, Feline CD28, Feline CTLA-4 or

TITLE OF INVENTION: Feline Interferon-gamma And Uses Thereof

FILE REFERENCE: 54957-B

CURRENT APPLICATION NUMBER: US/09/303,040

EARLIER FILING DATE: 1999-04-30

EARLIER APPLICATION NUMBER: 60/083,870

EARLIER FILING DATE: 1998-05-01

NUMBER OF SEQ ID NOS: 82

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 5

LENGTH: 1080

TYPE: DNA

ORGANISM: feline CD86

FEATURE:

NAME/KEY: CDS

LOCATION: (63)..(1052)

US-09-303-040-5

Query Match 63.2%; Score 227; DB 10; Length 1080;
Best Local Similarity 100.0%; Pred. No. 3.7e-118;

Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGATTCAACT 60
|||||
Db 546 ATACAGGTTACCCAGACCTAAGAGATGATTTTCAGTAAACACTGAGATTCAACT 605
QY 61 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGTACACGTT 120
|||||
Db 606 ACTAAGTATGATCTGTCATGAAGAAATCTCAAAATATGTGACAGAACTGTACACGTT 665
QY 121 TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCAGACAAATGTGAGCGTCTTTTGCCCTG 180
|||||
Db 666 TCTATCAGCTTGGCTTTTTCAGTCCCTGGAAGCAGACAAATGTGAGCGTCTTTTGCCCTG 725
QY 181 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGA 227
|||||
Db 726 AAACGTGAGACACTGGAGATGCTGCTCCCTACCTTTCAATATAGA 772

RESULT 3

US-09-962-969-31

Sequence 31, Application US/09962969

Publication No. US20030045703A1

GENERAL INFORMATION:

APPLICANT: Sharpe, Sharpe

Borriello, Francesco

Freeman, Gordon

Nadler, Lee

TITLE OF INVENTION: No. US20030045703A1el Forms of T Cell Costimulatory

NUMBER OF SEQUENCES: 65

CORRESPONDENCE ADDRESS:

ADDRESS: LAHIVE & COCKFIELD

STREET: 28 State Street

CITY: Boston

STATE: Massachusetts

COUNTRY: USA

ZIP: 02109-1875

COMPUTER READABLE FORM:

MEDIUM TYPE: floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII Text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/962,969

FILING DATE: 24-Sep-2001

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/702,525

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Mandragouras, Amy E.

REGISTRATION NUMBER: 36,207

REFERENCE/DOCKET NUMBER: BWI-120CPUS

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617)227-7400

TELEFAX: (617)227-5941

INFORMATION FOR SEQ ID NO: 31:

SEQUENCE CHARACTERISTICS:

LENGTH: 210 base pairs

TYPE: nucleic acid

STRANDEDNESS: double

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:44:41 ; Search time 672.967 Seconds

(without alignments)
8639.622 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359
Sequence: 1 atacaaggtaccagaacc.....ggcgacaagaqlactacaca 359

Scoring table: OLIGO.NUC
Gapop 60.0 , Gapext 60.0

Searched: 16154066 segs, 8097743376 residues

Word size : 0

Total number of hits satisfying chosen parameters: 32308132

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-Processing: Listing first 100 summaries

Database :

EST:
1: em_estbta:*
2: em_estbhum:*
3: em_estlin:*
4: em_estmu:*
5: em_estov:*
6: em_estpl:*
7: em_estro:*
8: em_hic:*
9: gb_est1:*
10: gb_est2:*
11: gb_hic:*
12: gb_est3:*
13: gb_est4:*
14: gb_est5:*
15: em_estfun:*
16: em_estom:*
17: gb_gss:*
18: em_gss_hum:*
19: em_gss_inv:*
20: em_gss_pln:*
21: em_gss_vit:*
22: em_gss_fun:*
23: em_gss_mam:*
24: em_gss_mus:*
25: em_gss_other:*
26: em_gss_pro:*
27: em_gss_rtd:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	ID	Description
C 1	21	5.8	167	AZ121157	AP121157 RPT-23-1
C 2	21	5.8	407	AM617088	AM617088 EST323499
C 3	21	5.8	420	AZ235242	AZ235242 RPT-23-7
C 4	21	5.8	420	AZ496704	AZ496704 IM0333F13
C 5	21	5.8	512	AA056905	AA056905 EST224F.P
C 6	21	5.8	515	BG622615	BG622615 602647355

7	20	5.6	172	10	AM034773
8	20	5.6	237	12	BG628176
9	20	5.6	424	17	AO315914
C 10	20	5.6	438	17	AO504944
C 11	20	5.6	536	17	AO455702
C 12	19	5.3	329	12	BE825954
C 13	19	5.3	381	17	BF037606
C 14	19	5.3	391	17	AZ639695
C 15	19	5.3	415	17	AO518306
C 16	19	5.3	418	14	BM064190
C 17	19	5.3	439	12	BG308450
C 18	19	5.3	520	17	AZ214107
C 19	19	5.3	549	13	BJ332252
C 20	19	5.3	557	13	BI881983
C 21	19	5.3	561	13	BI534423
C 22	19	5.3	590	13	BM0233714
C 23	19	5.3	595	17	AZ849042
C 24	19	5.3	610	13	BM103329
C 25	19	5.3	614	13	BM571199
C 26	19	5.3	623	13	BM530205
C 27	19	5.3	638	13	BM530205
C 28	19	5.3	645	17	AZ409539
C 29	19	5.3	650	17	AO657076
C 30	19	5.3	664	12	BF650796
C 31	19	5.3	692	17	AZ220176
C 32	19	5.3	695	12	BG708661
C 33	19	5.3	723	13	BI669723
C 34	19	5.3	724	17	AZ418977
C 35	19	5.3	738	12	BG306113
C 36	19	5.3	751	10	AM076961
C 37	19	5.3	756	17	AZ417121
C 38	19	5.3	842	12	BG708702
C 39	19	5.3	875	12	BG495687
C 40	19	5.3	925	13	BI559259
C 41	18	5.0	98	9	AB036296
C 42	18	5.0	213	12	BG280087
C 43	18	5.0	245	12	BG006453
C 44	18	5.0	250	17	AZ776235
C 45	18	5.0	260	10	AM709568
C 46	18	5.0	264	9	AV227043
C 47	18	5.0	266	12	BF356168
C 48	18	5.0	303	17	AZ882488
C 49	18	5.0	314	10	BM312994
C 50	18	5.0	331	10	AM711750
C 51	18	5.0	331	12	BF545483
C 52	18	5.0	338	9	AI321575
C 53	18	5.0	345	12	BG280113
C 54	18	5.0	347	10	AM723089
C 55	18	5.0	347	12	BG001664
C 56	18	5.0	350	12	BG278365
C 57	18	5.0	354	10	AM740051
C 58	18	5.0	364	12	BG279930
C 59	18	5.0	370	9	AA625671
C 60	18	5.0	378	9	AA973397
C 61	18	5.0	381	10	AV970694
C 62	18	5.0	382	17	AZ293751
C 63	18	5.0	389	17	AO632595
C 64	18	5.0	391	9	AI632116
C 65	18	5.0	394	10	AM716236
C 66	18	5.0	395	12	BF072750
C 67	18	5.0	396	10	AM711712
C 68	18	5.0	398	17	AO268418
C 69	18	5.0	399	12	BG278877
C 70	18	5.0	400	10	AM711732
C 71	18	5.0	400	12	BG278415
C 72	18	5.0	409	17	AO621378
C 73	18	5.0	412	12	BF658317
C 74	18	5.0	413	9	AI812520
C 75	18	5.0	414	17	AZ213172
C 76	18	5.0	420	17	AO849111
C 77	18	5.0	424	17	BH242748
C 78	18	5.0	424	9	AA661094
C 79	18	5.0	429	14	BP015071

AM034773	EST278809
BG628176	CC-estfct
AO315914	RPT11-1N
AO504944	RPT-11-2
AO455702	HS-5068_B
BE825954	CM2-EN001
BF037606	601461178
AZ639695	IM0501N13
AO518306	HS-5105_A
BM064190	UT-M-EQ0-
BG308450	FL92456.x
AZ214107	Sheared D
BJ332252	Bj332252
BI881983	fm87d07.x
BI534423	fr90g09.x
BM0233714	fu67e06.x
AZ849042	2M0150K17
BM103329	fv20a05.x
BM571199	fw75b03.x
BM530205	fw73c07.x
AZ409539	IM0181N12
AO657076	Sheared D
BF650796	NP096H10E
AZ220176	Sheared D
BG708661	602672589
BI669723	603293258
AZ418977	IM0195115
BG306113	fm52d07.x
AM076961	fj33b01.x
AZ417121	IM0192110
BG708702	602674248
BG495687	602538361
BI559259	603240895
AB036296	AB036296
BG280087	b8q07np.f
BG006453	MR3-GN018
AZ776235	2M0009008
AM709568	d6b04e.x
AV227043	AV227043
BF356168	KC0-HT008
AZ882488	RPT-23-2
BM312994	BB312994
AM711750	f5f03ne.x
BF545483	UI-R-C1-f
AI321575	g9f06nm.f
BG280113	b8h12np.f
AM723089	d9f06nm.f
BG001664	RC4-GN006
BG278365	a3g10np.f
AM740051	BR110056
BG279930	b7f01np.f
AA625671	zu91d09.s
AA973397	oo44d04.s
AV970694	AV970694
AZ293751	RPT-23-6
AO632595	CITB1-EI-
AI632116	ts85D01.x
AM716236	g9h11nm.f
BF072750	NCSMAE27
AM711712	tsd03ne.f
AO268418	ap7h1np.f
BG278877	a7h11np.f
AM711732	f5e03ne.f
BG278415	a4b09np.f
AO621378	HS-2180_A
BF658317	mae8a01.
AI812520	12C10 Pln
AZ213172	Sheared D
AO849111	IMAUFV1.1
BH242748	AUTEM04TF
AA661094	JW000278
BP015071	BP015071

```

c 80      18      5.0      436      12      BG279275      BG279275      B2a05np.f
c 81      18      5.0      444      12      BG280115      BG280115      cba02np.f
c 82      18      5.0      446      12      BG280115      BG280115      ebl01np.f
c 83      18      5.0      457      12      DR19J1T      DR19J1T      dan10.rer
c 84      18      5.0      461      17      BG278232      BG278232      a2f01np.f
c 85      18      5.0      464      9      AA901713      AA901713      NCP3E3T7
c 86      18      5.0      465      10      BB831951      BB831951      HS_5143.A
c 87      18      5.0      466      17      AO615745      AO615745      PM2-MT003
c 88      18      5.0      475      12      BE831118      BE831118      B1e02np.f
c 89      18      5.0      477      12      BG279196      BG279196      NCM09F3T7
c 90      18      5.0      480      9      A1398863      A1398863      at27n10.x
c 91      18      5.0      480      9      A1750143      A1750143      BM695966
c 92      18      5.0      481      14      BM695966      BM695966      UI-E-CL1-
c 93      18      5.0      483      9      AA901716      AA901716      NCP5D9T7
c 94      18      5.0      487      10      AV993842      AV993842      sae29a02.
c 95      18      5.0      487      12      BG726932      BG726932      xq04h01.x
c 96      18      5.0      496      10      AW516826      AW516826      ba95f08.x
c 97      18      5.0      503      10      BE206250      BE206250      NCP4E2T7
c 98      18      5.0      508      9      AA901714      AA901714      BJ037109
c 99      18      5.0      525      13      BJ037109      BJ037109      BJ490489
c 100     18      5.0      525      13      BJ490489      BJ490489

```

ALIGNMENTS

```

RESULT 1
A2121157/c 167 bp DNA linear GSS 12-MAY-2000
LOCUS RPCI-23-1G3.TV RPCI-23 Mus musculus genomic clone RPCI-23-1G3, DNA
DEFINITION sequence.
ACCESSION A2121157
VERSION A2121157.1 GI:7787791
KEYWORDS GSS.
SOURCE house mouse.
ORGANISM Mus musculus.

```

```

REFERENCE
AUTHORS Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 167)
Zhao, S., Nierman, W., Feldbljum, T., Malek, J., Shatsman, S., Akliret,
B., Levins, M., McGann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P.
and Fraser, C.M.
Mouse BAC End Sequences from Library RPCI-23
Unpublished (1999)
Other-GSSs: RPCI-23-1G3.TU
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200
Fax: 301 838 0208
Email: szhao@tigr.org
Clones are derived from the mouse BAC library RPCI-23. For BAC
library availability, please contact Pieter de Jong
(peter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm)
or from Resea ch Genetics (info@resgen.com). BAC end page:
http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 1 row: G column: 3
Seq primer: T7
Class: BAC ends.

```

FEATURES

```

source
Location/Qualifiers
1. 167
/organism="Mus musculus"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="RPCI-23-1G3"
/clone_1lb="RPCI-23"
/sex="Female"
/lab_host="DH10B"
/note="Organ: Kidney/Brain: Vector: pBACe3.6; Site_1:
EcORI; Site_2: EcORI; Female C57BL/6J mouse kidney and/or
brain genomic DNA was isolated and partially digested

```

```

BASE COUNT      33 a      25 c      38 g      71 t
with a combination of EcoRI and EcoRI Methylase. Size
selected DNA was cloned into the pBACe3.6 vector at the
EcoRI sites. The ligation products were transformed into
DH10B electrocompetent cells (BRL Life Technologies).

```

```

Query Match      5.8%; Score 21; DB 17; Length 167;
Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      206 TCTCCCTACCTTCAATATAG 226
Db      23 TCTCCCTACCTTCAATATAG 3

```

```

RESULT 2
AW617088/c 407 bp mRNA linear EST 18-MAY-2001
LOCUS EST323499 L. hirsutum trichome, Cornell University Lycopersicon
DEFINITION hirsutum cDNA clone cLHR21F11 5', mRNA sequence.
ACCESSION AW617088
VERSION AW617088.1 GI:7323198
KEYWORDS EST.
SOURCE Lycopersicon hirsutum.
ORGANISM Lycopersicon hirsutum.

```

```

REFERENCE
AUTHORS van der Hoeven, R.S., Bezzerides, J.L., Matero, A.L., Holt, I.E., Liang
F., Hansen, T., Craven, M.B., Bowman, C.L., Romning, C.M., Nierman, W.,
Fraser, C.M., Martin, G.B., Giovannoni, J.J. and Tanksley, S.D.
Generation of ESTs from wild tomato (Lycopersicon hirsutum)
trichomes.
Unpublished (2000)
Contact: CGI
Clemson University Genomics Institute
Clemson University
100 Jordan Hall, Clemson, SC 29634, USA
Email: http://www.genome.clemson.edu/orders/index.html
5 prime sequence.

```

```

JOURNAL
COMMENT
TITLE

```

FEATURES

```

source
Location/Qualifiers
1. 407
/organism="Lycopersicon hirsutum"
/db_xref="taxon:62890"
/clone="cLHR21F11"
/clone_1lb="L. hirsutum trichome, Cornell University"
/tissue_type="trichome"
/dev_stage="mixed stages"
/note="Leaves of various stages were shaken in liquid
nitrogen, shearing off trichomes. This procedure yielded a
mixture of cells which is highly enriched for trichome
cells"

```

```

BASE COUNT      120 a      59 c      84 g      144 t

```

```

Query Match      5.8%; Score 21; DB 10; Length 407;
Best Local Similarity 100.0%; Pred. No. 1.3;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      234 CAAAGGAGAGAGAGAGAGAG 254
Db      139 CAAAGGAGAGAGAGAGAG 119

```

```

RESULT 3
AW235242/c 420 bp DNA linear GSS 14-JUN-2000
LOCUS RPCI-23-71J9.TV RPCI-23 Mus musculus genomic clone RPCI-23-71J9,
DEFINITION DNA sequence.

```

GenCore version 5.1.4.p5.4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: April 22, 2003, 16:45:55 ; Search time 17.2157 Seconds
(without alignments)
6395.163 Million cell updates/sec

Title: US-09-646-561-33

Perfect score: 359
Sequence: 1 atacaaggtaccaggaac.....ggcgaacaaagtactacaca 359

Scoring table: OLIGO_NUC
Gapop 60.0 , Gapext 60.0

Searched: 441362 segs, 153338381 residues

Word size : 0
Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 100 summaries

Database :

Issued_Patents_NA: *
1: /cgn2_6/prodata/1/lna/5A.COMB.seq: *
2: /cgn2_6/prodata/1/lna/5B.COMB.seq: *
3: /cgn2_6/prodata/1/lna/6A.COMB.seq: *
4: /cgn2_6/prodata/1/lna/6B.COMB.seq: *
5: /cgn2_6/prodata/1/lna/PCRTUS.COMB.seq: *
6: /cgn2_6/prodata/1/lna/backfile1.seq: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	18	5.0	210	4	US-08-205-697A-31
2	18	5.0	210	4	US-08-702-525-31
3	18	5.0	210	5	PCT-US95-02576-31
4	18	5.0	306	3	US-08-479-744A-46
5	18	5.0	306	3	US-08-280-757B-46
6	18	5.0	751	4	US-09-039-982A-34
7	18	5.0	751	4	US-09-039-641-34
8	18	5.0	751	4	US-09-042-492D-34
9	18	5.0	751	4	US-08-913-612A-34
10	18	5.0	837	5	PCT-US94-03744-1
11	18	5.0	972	4	US-08-848-760B-11
12	18	5.0	1002	4	US-09-039-982A-33
13	18	5.0	1002	4	US-09-039-641-33
14	18	5.0	1002	4	US-09-042-492D-33
15	18	5.0	1002	4	US-09-042-492D-33
16	18	5.0	1002	4	US-08-913-612A-33
17	18	5.0	1120	2	US-08-456-104-1
18	18	5.0	1120	2	US-08-101-624-1
19	18	5.0	1120	3	US-08-479-744A-1
20	18	5.0	1120	3	US-08-280-757B-1
21	18	5.0	1120	4	US-08-205-697A-22
22	18	5.0	1120	4	US-08-702-525-22
23	18	5.0	1120	4	US-08-403-253A-3
24	18	5.0	1120	5	PCT-US95-02576-22
25	18	5.0	1161	4	US-08-205-697A-24
26	18	5.0	1161	4	US-08-702-525-24
27	18	5.0	1161	4	US-08-702-525-24

28	18	5.0	1161	5	PCT-US95-02576-24	Sequence 24, Appl
29	18	5.0	1424	4	US-09-326-186B-226	Sequence 226, App
30	18	5.0	1428	5	PCT-US94-09642-1	Sequence 1, Appl
31	18	5.0	1491	4	US-09-058-947A-3	Sequence 3, Appl
32	18	5.0	1502	4	US-08-868-373-11	Sequence 11, Appl
33	18	5.0	1807	4	US-09-058-947A-2	Sequence 2, Appl
34	18	5.0	3722	4	US-09-058-947A-1	Sequence 1, Appl
35	17	4.7	18	2	US-08-588-664B-2598	Sequence 2598, Ap
36	17	4.7	18	4	US-09-038-073-2598	Sequence 2598, Ap
37	17	4.7	3761	4	US-08-890-865A-2	Sequence 2, Appl
38	17	4.7	5874	4	US-08-843-417-9	Sequence 9, Appl
39	17	4.7	10411	4	US-08-961-527-89	Sequence 89, Appl
40	16	4.5	36	1	US-08-717-526-79	Sequence 79, Appl
41	16	4.5	291	4	US-09-134-001C-2587	Sequence 2587, Ap
42	16	4.5	475	4	US-09-328-111-263	Sequence 263, App
43	16	4.5	660	4	US-09-134-001C-2814	Sequence 2814, Ap
44	16	4.5	1314	4	US-08-928-442-2	Sequence 2, Appl
45	16	4.5	1448	1	US-08-035-634-1	Sequence 1, Appl
46	16	4.5	1508	4	US-09-518-914-1	Sequence 1, Appl
47	16	4.5	1541	4	US-09-518-914-3	Sequence 3, Appl
48	16	4.5	1895	4	US-09-444-336-7	Sequence 7, Appl
49	16	4.5	2182	4	US-09-039-046-3	Sequence 3, Appl
50	16	4.5	2322	1	US-08-618-164-1	Sequence 1, Appl
51	16	4.5	2714	3	US-09-002-298-4	Sequence 4, Appl
52	16	4.5	2726	1	US-08-461-823-1	Sequence 1, Appl
53	16	4.5	2796	1	US-08-261-677-8	Sequence 8, Appl
54	16	4.5	2796	2	US-08-384-556A-4	Sequence 4, Appl
55	16	4.5	2796	3	US-08-331-355A-8	Sequence 8, Appl
56	16	4.5	2796	3	US-08-777-147-5	Sequence 5, Appl
57	16	4.5	2796	5	US-09-157-077-8	Sequence 8, Appl
58	16	4.5	2796	5	PCT-US94-12364-8	Sequence 8, Appl
59	16	4.5	2796	5	PCT-US95-07753-4	Sequence 4, Appl
60	16	4.5	3455	2	US-08-861-464-3	Sequence 3, Appl
61	16	4.5	3455	2	US-08-386-001-3	Sequence 3, Appl
62	16	4.5	3455	2	US-09-323-433A-3	Sequence 3, Appl
63	16	4.5	4233	3	US-09-120-513-1	Sequence 1, Appl
64	16	4.5	4233	4	US-09-450-105-1	Sequence 1, Appl
65	16	4.5	4264	2	US-08-784-649A-1	Sequence 1, Appl
66	16	4.5	4264	2	US-08-784-649A-5	Sequence 5, Appl
67	16	4.5	4669	1	US-08-181-471-2	Sequence 2, Appl
68	16	4.5	4669	2	US-08-752-447-1	Sequence 1, Appl
69	16	4.5	4669	2	US-09-316-167-1	Sequence 1, Appl
70	16	4.5	4669	6	US-08-920-812-20	Sequence 20, Appl
71	16	4.5	5541	1	US-08-920-827-20	Sequence 20, Appl
72	16	4.5	5541	1	US-08-921-177-20	Sequence 20, Appl
73	16	4.5	5541	1	US-08-362-577C-20	Sequence 20, Appl
74	16	4.5	5541	1	US-08-920-828-20	Sequence 20, Appl
75	16	4.5	5541	2	US-08-793-610-5	Sequence 5, Appl
76	16	4.5	5505	2	US-09-172-422-2	Sequence 2, Appl
77	16	4.5	8473	4	US-08-793-610-6	Sequence 6, Appl
78	16	4.5	9318	2	US-08-961-527-151	Sequence 151, App
79	16	4.5	13425	4	US-09-245-041-5	Sequence 5, Appl
80	15	4.2	27	4	US-08-584-040-5231	Sequence 5231, App
81	15	4.2	31	2	US-08-859-998-239	Sequence 239, App
82	15	4.2	299	4	US-09-225-928-339	Sequence 239, App
83	15	4.2	84	3	US-08-905-223-243	Sequence 243, App
84	15	4.2	86	3	US-09-109-204-20	Sequence 20, Appl
85	15	4.2	86	3	US-08-858-207A-218	Sequence 218, App
86	15	4.2	930	4	US-09-134-001C-638	Sequence 638, App
87	15	4.2	930	4	US-08-887-340-3	Sequence 3, Appl
88	15	4.2	1048	2	US-09-252-329-3	Sequence 3, Appl
89	15	4.2	1048	3	US-08-463-090B-5	Sequence 5, Appl
90	15	4.2	1154	2	US-08-723-415B-3	Sequence 3, Appl
91	15	4.2	1154	4	US-09-189-627A-3	Sequence 3, Appl
92	15	4.2	1154	4	US-09-710-861-3	Sequence 3, Appl
93	15	4.2	1157	2	US-08-723-415B-5	Sequence 5, Appl
94	15	4.2	1157	3	US-09-189-627A-5	Sequence 5, Appl
95	15	4.2	1157	3	US-09-710-861-5	Sequence 5, Appl
96	15	4.2	1157	4	US-08-723-415B-7	Sequence 7, Appl
97	15	4.2	1202	2	US-09-189-627A-7	Sequence 7, Appl
98	15	4.2	1202	3	US-09-710-861-7	Sequence 7, Appl
99	15	4.2	1202	4	US-08-684-862-9	Sequence 9, Appl
100	15	4.2	1333	1	US-08-684-862-9	Sequence 9, Appl

ALIGNMENTS

RESULT 1

US-08-205-697A-31
Sequence 31, Application US/08205697A
Patent No. 6218510
GENERAL INFORMATION:
APPLICANT: Sharpe, Arlene H.
APPLICANT: Borriello, Francescopaulo
APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
TITLE OF INVENTION: No. 6218510el Forms of T Cell Costimulatory Molecules
TITLE OF INVENTION: and Uses Therefor
NUMBER OF SEQUENCES: 61
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/205,697A
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-205-697A-31

Query Match 5.0%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 4.1;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 295 AGATCTGATGAAGCCGAG 312
|||||
DB 112 AGATCTGATGAAGCCGAG 129

RESULT 2
US-08-702-525-31
Sequence 31, Application US/08702525
Patent No. 6294660
GENERAL INFORMATION:
APPLICANT: Sharpe, Arlene H.
APPLICANT: Borriello, Francescopaulo
APPLICANT: Freeman, Gordon
APPLICANT: Nadler, Lee
TITLE OF INVENTION: No. 6294660el Forms of T Cell Costimulatory
TITLE OF INVENTION: Molecules and Uses Therefor
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/02576
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-702-525-31

ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,525
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWI-120CPUS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 210 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: CDNA
FEATURE:
NAME/KEY: CDS
LOCATION: 1..183
US-08-702-525-31

Query Match 5.0%; Score 18; DB 4; Length 210;
Best Local Similarity 100.0%; Pred. No. 4.1;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 295 AGATCTGATGAAGCCGAG 312
|||||
DB 112 AGATCTGATGAAGCCGAG 129

RESULT 3
PCT-US95-02576-31
Sequence 31, Application PCT/US9502576
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: Novel Forms of T Cell Costimulatory Molecules
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/02576
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.